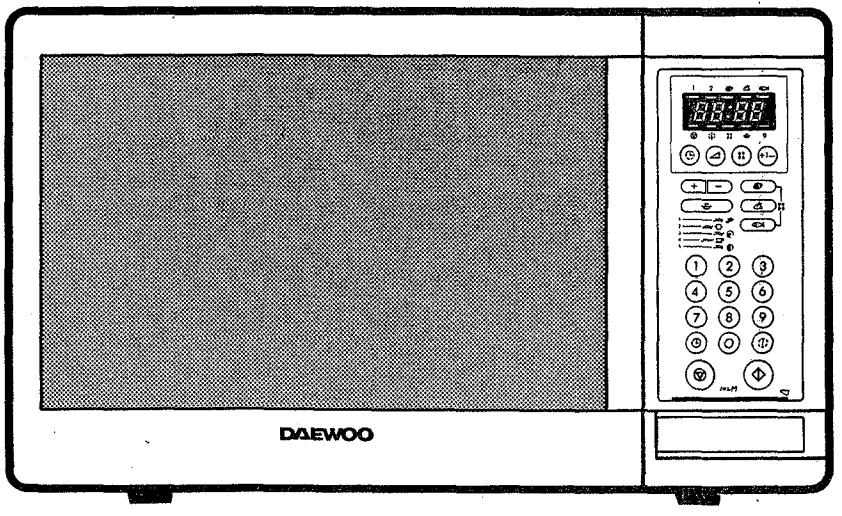
# MICROWAVE OVEN

# Service Manual

Model: KOR-804M



# PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

(a) Do not operate or allow the oven to be operated with the door open.

(b) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary: (1) Interlock operation, (2) proper door closing, (3) seal and sealing surfaces (arcing, wear, and other damage), (4) damage to or loosening of hinges and latches, (5) evidence of dropping or abuse.

(c) Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity, and connections.

(d) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.

(e) A microwave leakage check to verify compliance with the Federal performance standard should be performed on each oven prior to release to the owner.

## TABLE OF CONTENTS

**CAUTION :** This Device is to be Serviced Only by Properly Qualified Service Personnel. Consult the Service Manual for Proper Service Procedures to Assure Continued Safety Operation and for Precautions to be Taken to Avoid Possible Exposure to Excessive Microwave Energy.

## PROPER USE AND SERVICE PRECAUTIONS

1. For Safe Operation

   Damage that allows the microwave energy (that cooks or heats the food) to escape will result in poor cooking and may cause serious bodily injury to the operator.

   IF ANY OF THE FOLLOWING CONDITIONS EXIST. OPERATOR MUST NOT USE THE APPLIANCE.

   (Only a trained service personnel should make repairs.)

   1) A broken door hinge.
   2) A broken door viewing screen.
   3) A broken front panel, oven cavity.
   4) A loosened door lock.
   5) A broken door lock.

   The door gasket plate and oven cavity surface be kept clean.

   No grease, soil or spatter should be allowed to build up on these sufaces or inside the oven.

   DO NOT ATTEMPT TO OPERATE THIS APPLIANCE WITH THE DOOR OPEN. The microwave oven has concealed switches to make sure the power is turned off when the door is opened. Do not attempt to defeat them.

   DO NOT ATTEMPT TO SERVICE THIS APPLIANCE UNTIL YOU HAVE READ THIS SERVICE MANUAL.

2. For Safe Service Procedures.

   1) If the oven is operative prior to servicing, a microwave emission check should be performed prior to servicing the oven.

   2) If any certified oven unit is found to have excessive emission level 5mW/cm$^2$, the service person should:
      (a) inform the manufacturer, importer or assembler,
      (b) repair the unit at no cost to the owner,
      (c) attempt to ascertain the cause of the excessive leakage,
      (d) tell the owner of the unit not to use the unit until the oven has been brought into compliance.

   3) If the oven operates with the door open, the service person should tell the user not to operate the oven and contact the manufacturer and CDRH immediately.

**CAUTION**

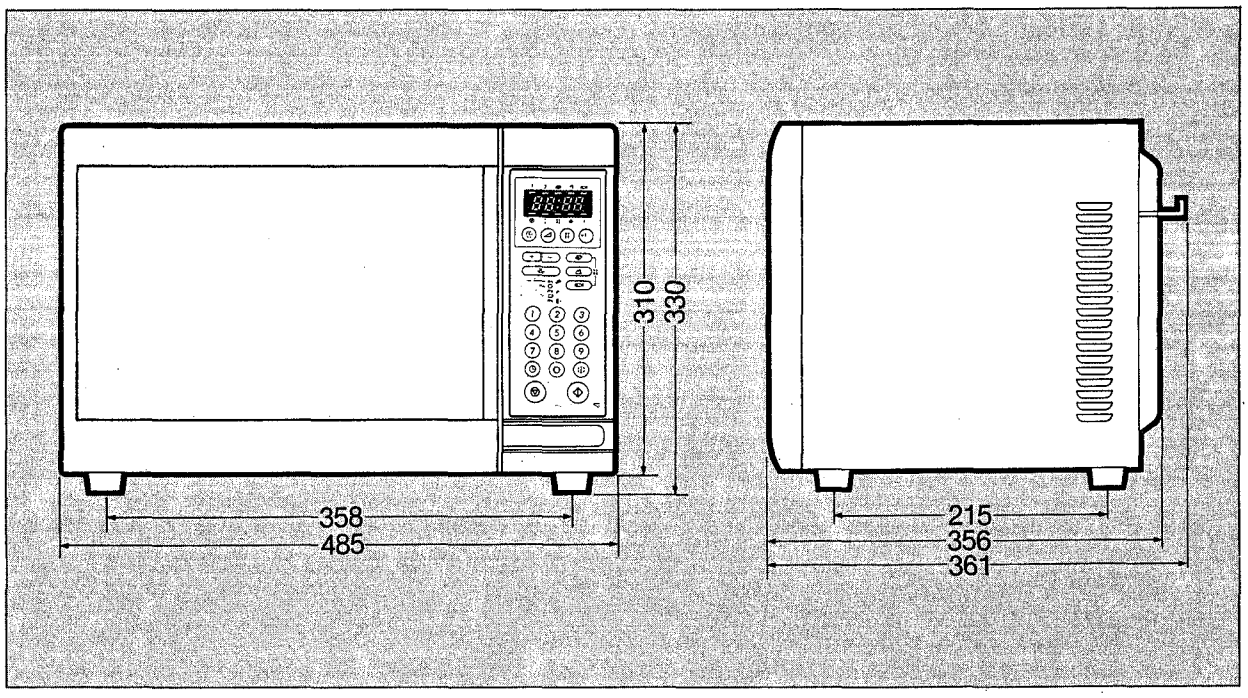
**MICROWAVE RADIATION**

PERSONNEL SHOULD NOT BE EXPOSED TO THE MICROWAVE ENERGY WHICH MAY RADIATE FROM THE MAGNETRON OR OTHER MICROWAVE GENERATING DEVICE IF IT IS IMPROPERLY USED OR CONNECTED. ALL INPUT AND OUTPUT MICROWAVE CONNECTIONS, WAVEGUIDE, FLANGES AND GASKETS MUST BE SECURE. NEVER OPERATE THE DEVICE WITHOUT A MICROWAVE ENERGY ABSORBING LOAD ATTACHED. NEVER LOOK INTO AN OPEN WAVEGUIDE OR ANTENNA WHILE THE DEVICE IS ENERGIZED.

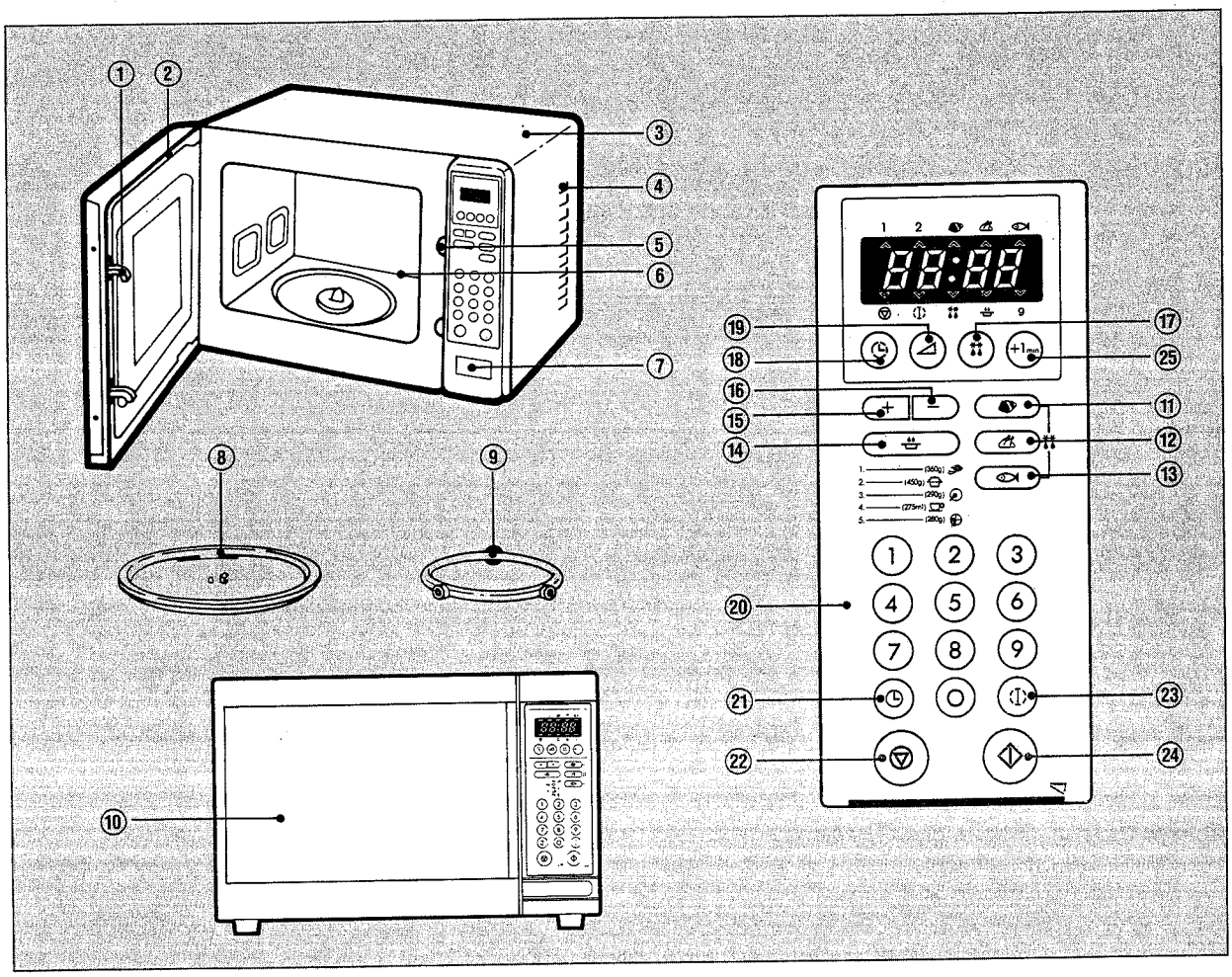
# SPECIFICATIONS

| Item | Rating Specification |
|---|---|
| Power Supply | 230V Single phase with grounding 50Hz AC. |
| Power Consumption | 1400 W |
| Microwave Output Power | 900 W: Full Microwave power |
| Microwave Frequency | 2450 MHz |
| Outside Dimensions | 485 (W)×361 (D)×330 (H) mm |
| Cavity Dimensions | 310 (W)×310 (D)×245 (H) mm |
| Cavity Volume | 0.90 Cu.ft. (24ℓ) |
| Net Weight | 17 Kg |
| Timer | Digital timer 99 min. 99 sec. |

**Specification subject to change without notice.*



# NAMES AND FUNCTION OF PARTS




① **Door Hook**—When door is closed, it will automatically lock shut. If door is opened while oven is operating, magnetron will immediately stop operating.

② **Door Seal (Microwave absorber)**—Door seal maintains the microwave within the oven cavity and provents microwave leakage.

③ **Cabinet**

④ **Suction Air Vents**—To cool the interior.

⑤ **Safety Interlock System**

⑥ **Oven Cavity**

⑦ **Door Release Button**—By pushing this button the interlock switch cuts off all circuit and stop the oven before the door can be opened.

⑧ **Turntable**—Made of special heat-resistant glass. Tray must always be in proper position when oven is operating.

⑨ **Roller Guide**—To support the glass turntable.

⑩ **Door Viewing Screen**—Allows viewing of food. The screen is designed so that light can pass through, but not the microwave.

⑪ **Meat Pad**—Touch to defrost meat.

⑫ **Poultry Pad**—Touch to defrost poultry.

⑬ **Fish Pad**—Touch to defrost fish.

⑭ **Auto Reheat Pad**—Touch to set only desired program reheat setting.

⑮ **More Pad**—Touch to add on extra seconds of cooking time when the AUTO REHEAT is selected.

⑯ **Less Pad**—Touch to remove seconds of cooking time when the AUTO REHEAT is selected.
⑰ **Auto Defrost Pad**—Touch this pad, then the desired number pads to set the defrosting time.
⑱ **Time Pad**—Touch this pad, then the desired number pads to set the cooking time.
⑲ **Power Level Pad**—Touch this pad, then the desired number pads to enter the power level.
⑳ **Number Pads**—Used to set the cooking time, power level and weight.
㉑ **Clock Pad**—Touch to set the present time.
㉒ **Pause/Clear Pad**—Used to stop the oven operation or to delete the cooking data.
㉓ **Auto Start Pad**—Touch this pad to auto start the oven.
㉔ **Start Pad**—Used to start a selected operation.
㉕ **One minute Repeat Pad**—Touch this pad, the oven operate for one minute on high power. If you've touched this pad after ending the stage cook 1 or 2, the oven cooks at the previously selected power level for one minute.

## INSTALLATION

1 **Steady, flat location**
This microwave oven weighs 17kg, so it should be set on a steady, flat location.

2 **Leave space behind and side**
All air vents should be kept a clearance. If all vents are covered during operation, the oven may overheat and, eventually, cause oven failure.

3 **Away from Radio and TV sets**
Poor television reception and radio interference may result if the oven is located close to a TV, Radio, or Antenna, feeder and so on.

4 **Away from heating appliances and water taps**
Keep the oven away from hot air, steam or splash when choosing a place to position it, or the insulation might be adversely affected and breakdowns occur.

5 **Power supply**
- Check your local power source.
  This microwave oven requires a current of approximately 6 amperes 230V 50Hz.
  Use a receptacle that will accept the ground prong.
- Voltage Warning
  The voltage used must be the same as specified on this Microwave Oven.
  Using a higher voltage may result in a fire or other accident causing oven damage. Using low voltage will cause slow cooking.
  We are not responsible for damage resulting from use of this Microwave Oven with a voltage or amperage fuse other than those specified.

# OPERATION PROCEDURE

**This section includes useful information about oven operation.**

1. Plug power supply cord into standard 3-pin earthed 8 Amp, 230V AC 50Hz power outlet socket.
2. After placing the food in a suitable container, open the oven door and put it on the glass tray. The glass tray must always be in place during cooking.
3. Shut the door. Make sure that it is firmly closed.

1 When the oven door is opened, the light turns off.

2 The oven door can be opened at any time during operation by touching the door release button on the control panel. The oven will automatically shut off. To restart the oven, close the door and then touch START.

3 Each time a pad is touched, a BEEP will sound to acknowledge the touch. One of the function pads must be touched before the number pads. Therefore, no beep will sound if the numeral pad is touched before the function pad.

4 The oven automatically cooks on full power unless set to a lower power level.

5 The display will flash "1:00" when the oven is plugged in.

6 Time clock returns to the present time when the oven turns off.

7 When the PAUSE/CLEAR pad is touched during the oven operation, the oven stops cooking and all information is retained. To erase all information (except the present time and memory data), touch the PAUSE/CLEAR pad once more. If the oven door is opened during the oven operation, all information is retained.

8 If the START pad is touched and the oven does not operate, check the area between the door and door seal for obstructions and make sure the door is closed securely.
The oven will not start cooking until the door is completely closed or the program has been reset.

Make sure the oven is properly installed and plugged into the electrical outlet.

**IMPORTANT :** This appliance most be earthed.

**Wattage output chart**

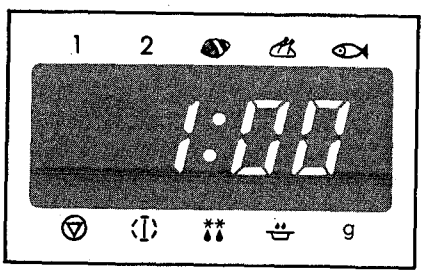
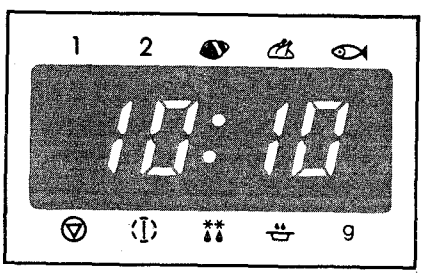
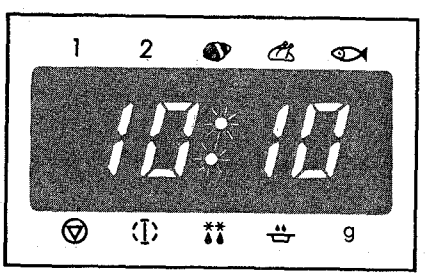
*Number pads represent the following when used to select power level.

| Pad Number | Power Level | Power |
|---|---|---|
| 1 | 1 | (10 %) |
| 2 | 2 | (17 %) |
| 3 | 3 | (28 %) |
| 4 | 4 | (38 %) |
| 5 | 5 | (48 %) |
| 6 | 6 | (59 %) |
| 7 | 7 | (69 %) |
| 8 | 8 | (79 %) |
| 9 | 9 | (90 %) |
| 10 | 10 | (100 %) |

# OPERATION

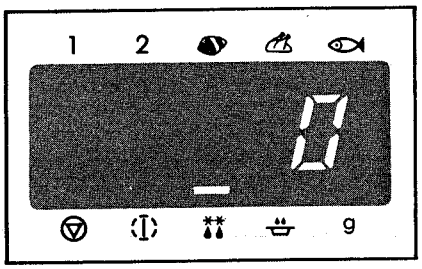
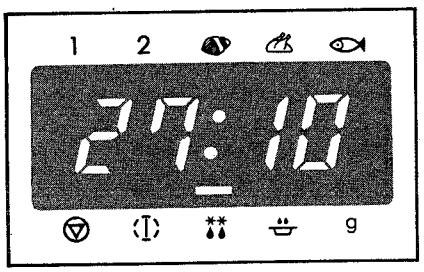
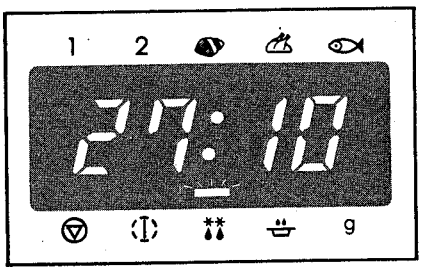
## SETTING THE CLOCK

When the oven is first plugged in, the Display will flash "1:00" and a tone will sound.
If the AC power ever goes off, the Display will flash "1:00" when the power comes back on.

| DO THIS... | THIS HAPPENS... | |
|---|---|---|
| 1. Touch CLOCK. |  | The colon stops blinking and a tone will sound. |
| **Example**<br>(1) (0) (1) (0)<br>2. Touch the Number Pads to set the present time. |  | The Display will show what numbers you pressed in the order you pressed them.<br>This example shows "10:10".<br>**NOTE:** The colon will continue to stop. |
| 3. Touche CLOCK pad to confirm the clock time. |  | The Display will show the present time, and the colon starts blinking.<br>This digital clock allows you to set from 0:00 to 23:59.<br>If you've programmed in an incorrect time such as "24:24", the time will not be set and the clock will not work.<br>If this occurs, reset the clock. |

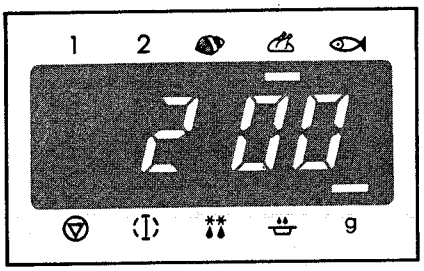
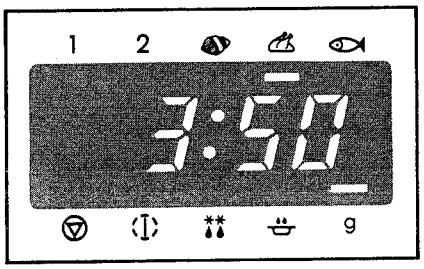
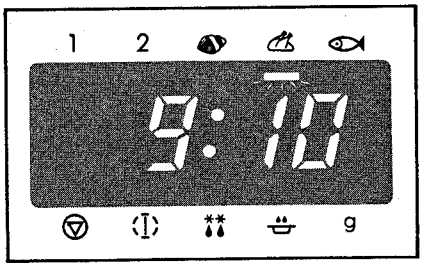
## AUTO DEFROSTING

When AUTO DEFROST is selected, the automatic cycle divides the defrosting time into periods of alternating defrost and stand times by cycling on and off.
This provides a more even defrosting.

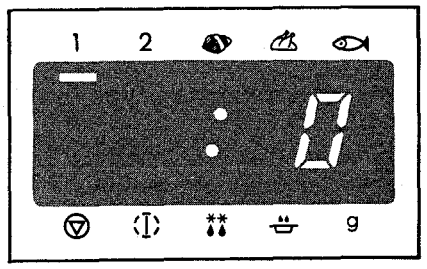
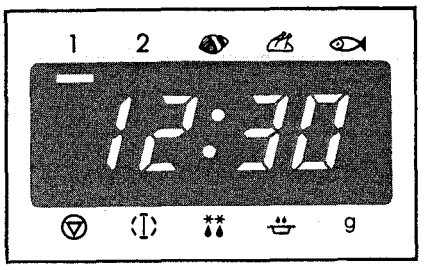
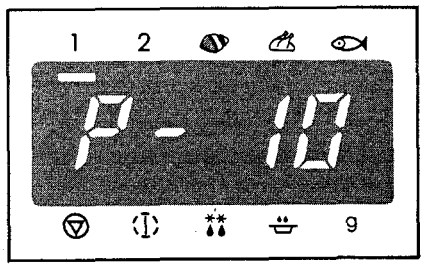
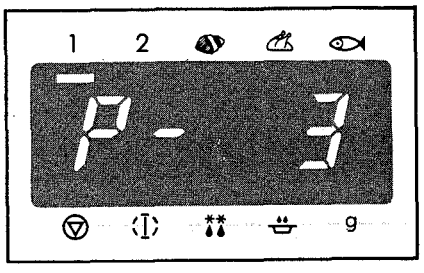
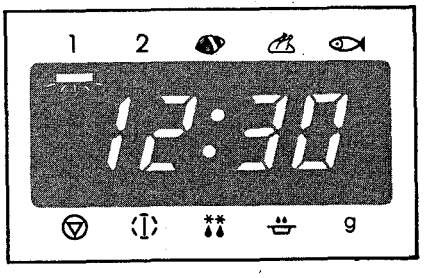
| DO THIS... | THIS HAPPENS... | |
|---|---|---|
| 1. Touch the AUTO DEFROST pad. |  | The AUTO DEFROST Indicator Light will come on. |
| **Example**<br>(2) (7) (1) (0)<br>2. Touch Number Pads for the defrosting time you want. |  | The Display will show the numbers you pressed in the order you touched them.<br>This example shows 27 minutes 10 seconds. |
| 3. Touch the START pad. |  | When you touch START, the AUTO DEFROST Indicator Light starts blinking to show the oven is in the Auto Defrost mode.<br>The Display counts down the time to show you how much defrosting time is left in the Auto Defrost mode.<br>Turn over, break apart and redistribute at a beep.<br>When the defrosting time ends, you will hear 3 beeps. |

# AUTO WEIGHT DEFROSTING

AUTO WEIGHT DEFROST lets you easily defrost food by eliminating gussework in determining defrosting time. The minimum weight for Auto Weight defrost is 200 grams. The maximum weight for Auto Weight Defrost is 3000 grams.
Follow the steps below for easy defrosting.

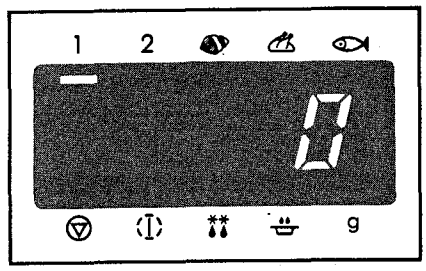
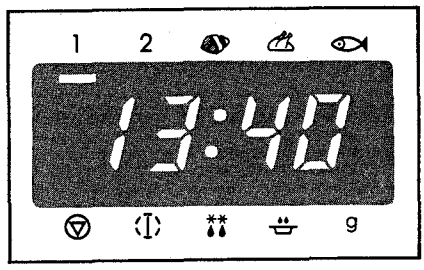
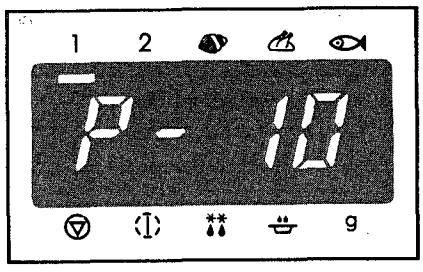
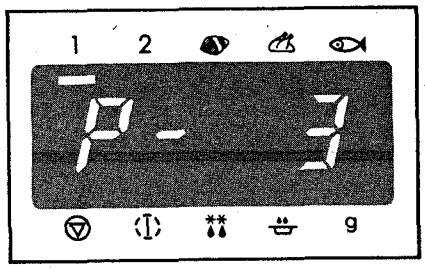
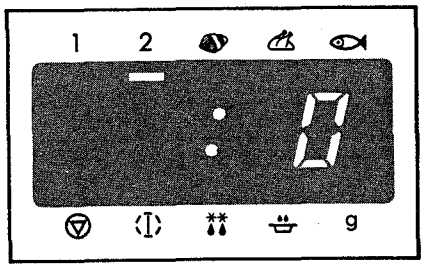
| DO THIS... | THIS HAPPENS... |
|---|---|
| **Example**<br>  <br>1. Touch the selected food item pad. |  | The POULTRY & g Indicator Light and minimum weight "200" is displayed.<br>If you wish to enter a new food item, press MEAT or FISH. |
| **Example**<br>(3) (5) (0)<br>2. Touch Number Pads for the defrosting weight you want. |  | The Display will show the numbers you pressed in the order your touched them.<br>This example shows 350 gs.<br>Set the weight of your meat, poultry, fish by touching the appropriate number pads to the nearest 10th of a gram. |
|  <br>3. Touch the START pad. |  | When you touch START, the POULTRY Indicator Light starts blinking to show the oven is in the Auto Weight Defrost mode.<br>The Display counts down the time to show you how much defrosting time is left in the AUTO WEIGHT DEFROST mode.<br>Turn over, break a part and redistribute at a beep.<br>When the defrosting time ends, you will hear 3 beeps.<br>If you've programmed an incorrect weight such as "4000" reset the Auto Weight Defrost. If this occurs, the Display will show "200". |

# COOKING IN ONE STAGE

| DO THIS... | THIS HAPPENS... | |
|---|---|---|
| 1. Touch the TIME pad once. |  | STAGE 1 Indicator Light will come on. |
| **Example**<br>(1) (2) (3) (0)<br>2. Touch the Number Pads for the cooking time you want. |  | The Display will show the numbers you pressed in the order you touched them. This example shows 12 minute 30 seconds. |
| 3. Touch POWER LEVEL pad. |  | The Display will show "P—10"<br>**NOTE:** If steps 3 and 4 are omitted, the oven will cook at full power. |
| **Example**<br>(3)<br>4. Touch the Number Pad for the Power level you want. |  | The Display will show what you touched.<br>This example shows power level 3. |
| 5. Touch the START pad. |  | The STAGE 1 Indicator Light starts blinking to show that the oven is cooking. The oven lamp will light. The oven will cook at the Power you selected.<br>The Display counts down the time to show how much cooking time is left. When the cooking time ends, you will hear 3 beeps.<br>The oven will stop and the light will go off. |

# COOKING IN TWO STAGES

For best results, some recipes call for one power level for a certain length of time and another power level for a different length of time. Your microwave oven can be set to change from one to another.

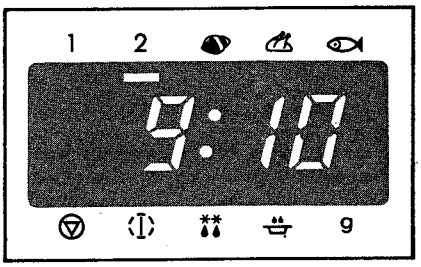
| DO THIS... | THIS HAPPENS... | |
|---|---|---|
| 1. Touch the TIME pad. |  | STAGE 1 Indicator Light will come on. |
| **Example**<br>(1) (3) (4) (0)<br>2. Touch the Number Pads for cooking time you want in the first stage. |  | The Display will show the numbers you pressed in the order you touched them.<br>This example shows 13 minutes 40 seconds. |
| 3. Touch the POWER LEVEL pad. |  | The Display will show "P—10". |
| **Example**<br>(3)<br>4. Touch the Number Pad for the Power level you want in the first stage. |  | The Display will show what you touched.<br>This example shows power level 3. |
| 5. Touch the TIME pad a second time. |  | STAGE 2 Indicator Light will come on. |

**DO THIS...** **THIS HAPPENS...**

**Example**

(9) (1) (0)

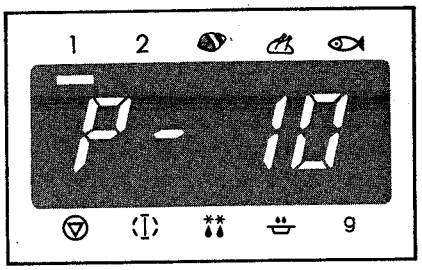
6. Touch the Number Pads for the cooking time you want in the second stage.




The Display will show the numbers you pressed in the order you touched them. This example shows 9 minutes 10 seconds.

---

7. Touch the POWER LEVEL pad.



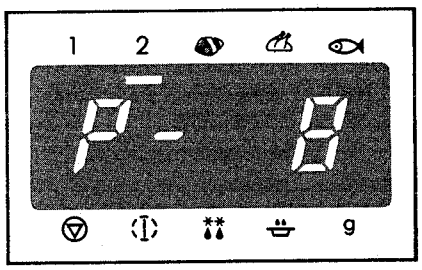

The Display will show "P—10".

---

**Example**

(8)

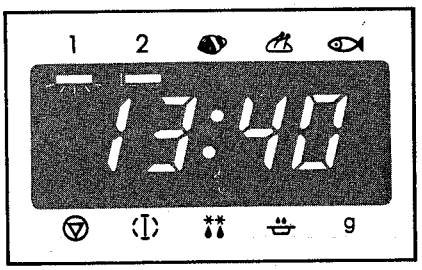
8. Touch a Number Pad for the Power level you want in the second stage.




The Display will show what you touched.
This example shows power level 8.

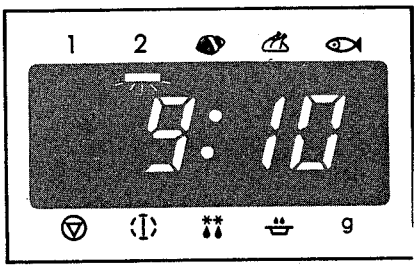
---

9. Touch the START pad.




When you touch START, both STAGE 1 & 2 Indicator Lights come on.
STAGE 1 Indicator Light starts blinking to show you that the oven is cooking in the first of two cook stages.
The oven will cook at the Power you selected for STAGE 1.

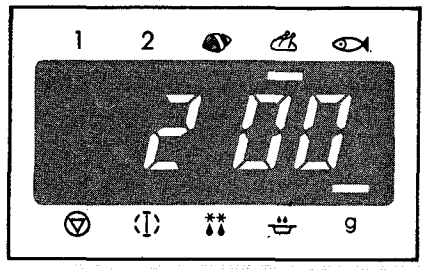
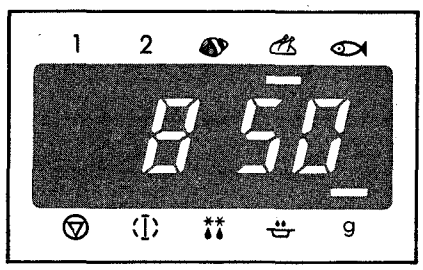
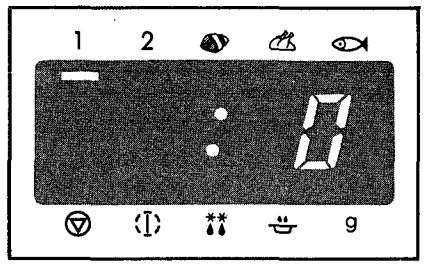
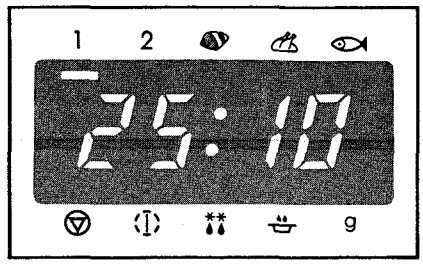
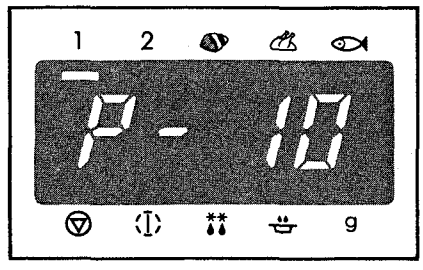
---

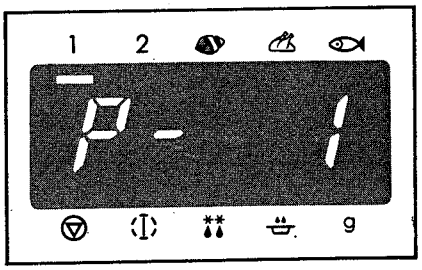
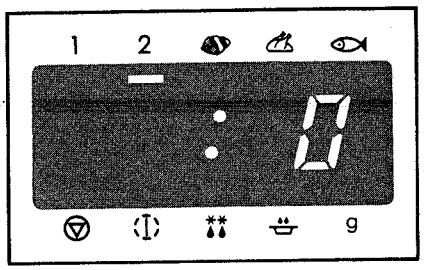
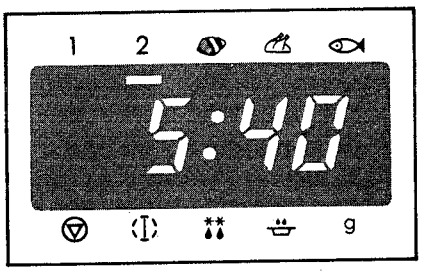
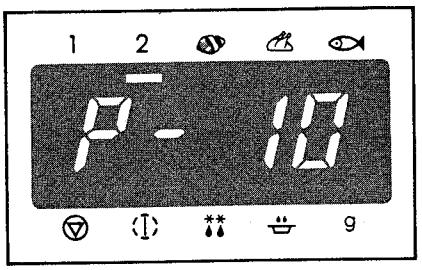
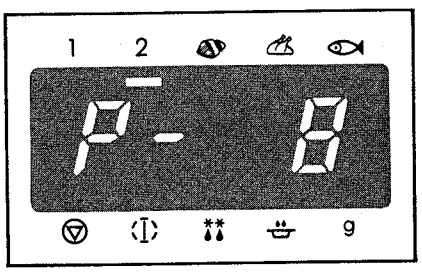


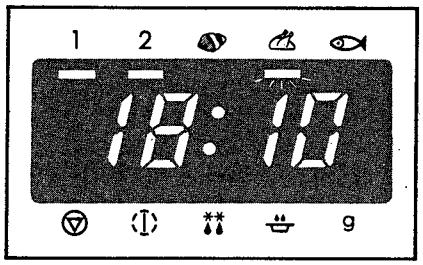
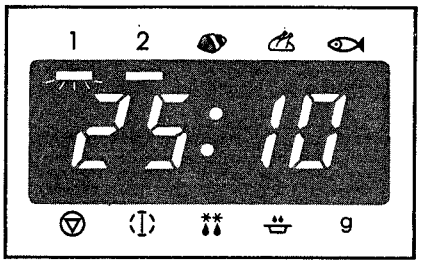
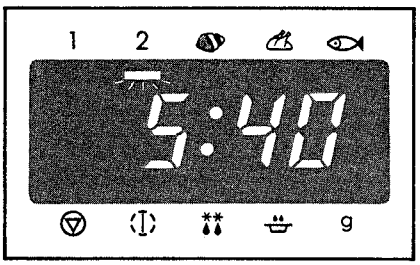

At end of the first stage, the oven will beep and start the second stage.
The STAGE 1 Indicator Light will go off and the STAGE 2 Indicator Light starts blinking. The Display counts down the time to show you how much cooking time is left you how much cooking time is left in the second stage. When STAGE 2 ends, you will hear 3 beeps.

# AUTO DEFROSTING AND COOKING IN TWO STAGES

Some recipes require frozen foods to be thawed before cooking.
This oven can be programmed to automatically defrost foods before cooking.

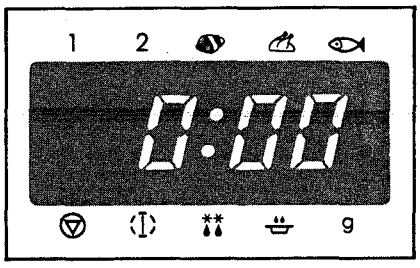
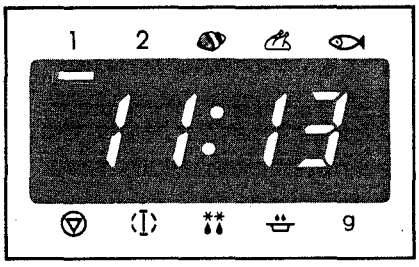
| DO THIS... | THIS HAPPENS... | |
|---|---|---|
| **Example**<br>1. Touch the POULTRY pad. |  | Selected food item Indicator Light will come on. |
| **Example**<br>(8) (5) (0)<br>2. Touch the Number Pads for the defrosting weight you want. |  | The Display will show the numbers you pressed in the order you touched them.<br>This example shows 850g. |
| 3. Touch the TIME pad. |  | STAGE 1 Indicator Light will come on. |
| **Example**<br>(2) (5) (1) (0)<br>4. Touch the Number Pads for the cooking time you want in the first stage. |  | The Display will show the numbers you pressed in the order you touched them. This example shows 25 minutes 10 seconds. |
| 5. Touch POWER LEVEL pad. |  | The Display will show "P—10". |

| DO THIS... | THIS HAPPENS... | |
|---|---|---|
| **Example**<br>(1)<br>6. Touch the Number Pad for the Power level you want in the first stage. |  | The Display will show what you touched.<br>This example shows power level 1. |
| 7. Touch the **TIME** pad a second time. |  | STAGE 2 Indicator Light will come on. |
| **Example**<br>(5) (4) (0)<br>8. Touch the Number Pads for the cooking time you want in the second stage. |  | The Display will show the numbers you pressed in the order you touched them. This example shows 5 minutes 40 seconds. |
| 9. Touch the **POWER LEVEL** pad. |  | The Display will show "P—10". |
| **Example**<br>(8)<br>10. Touch the Number pad for the Power level you want in the second stage. |  | The Display will show what you touched.<br>This example shows power level 8. |

| DO THIS... | THIS HAPPENS... | |
|---|---|---|
| 1. Touch the START pad. |  | When you touch START, the Indicator Light of poultry and STAGE 1 and 2 come on simultaneously. The poultry, Indicator Light starts blinking to show you that oven is cooking in the AUTO DEFROST mode.<br>The Display will counts down the time to show you how much defrosting time is left in the AUTO DEFROST mode. When the defrosting time ends, you will hear a beep and the oven will automatically start cooking in the first stage. |
| |  | The poultry, Indicator Light will go off and STAGE 1 & 2 Indicator Light will stay on.<br>STAGE 1 Indicator Light starts blinking.<br>The oven will cook at the power you selected for stage 1.<br>The Display will counts down the time to show you how much cooking time is left in the first stage. |
| |  | The STAGE 1 Indicator Light will go off and the STAGE 2 Indicator Light starts blinking. The oven will cook at the power you selected for stage 2. The display will count down the time to show you how much cooking time is left in the second stage. When the second stage ends, you will hear 3 beeps. |

# AUTO START

Allows you to program cooking to start at a time you select (up to 11 hours and 59 minutes ahead of the present time). The food will automatically start cooking at the desired time.

| DO THIS... | THIS HAPPENS... |
|---|---|
| 1. Program desired cooking time and power level as previously instructed. | |
| 2. Touch the AUTO START pad. |  The AUTO START Indicator and the colon come on and "00:00" is displayed. |
| **Example** (1) (1) (1) (3) 3. Enter the desired start time by pressing the numbered pads. |  The Display will show the numbers you pressed in the order you touched them. This example shows 11 hours 13 minutes. |
| 4. Touch the START pad. | The present time appears and the cooking program Indicator Light stay on. AUTO START Indicator Light starts blinking and oven light remains off as the oven waits for starting time. When the selected time arrives, the oven enters into the previously selected cooking function and the oven light turns on. The AUTO START Indicator Light disappears and the next stage Indicator Light begins to blink. When cooking is completed, you will hear 3 beeps. The oven and Indicator Light turn off and the present time will show in the display window. |

**NOTE:** If oven door is opened, after program has occurred press the start pad again after closing the door so that the oven will start at the programmed time.

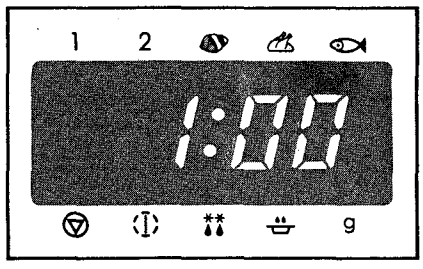
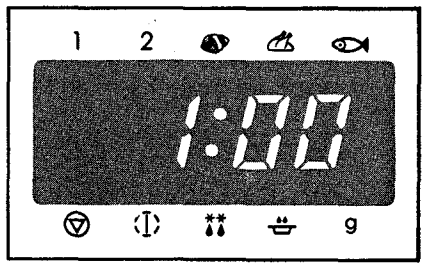
## TO CHECK THE AUTO START TIME

Once you have correctly programmed the oven for Auto Start, the present time (not the Auto Start time) will appear on the display.

| DO THIS... | THIS HAPPENS... |
|---|---|
| 1. Touch the AUTO START pad. | The Programmed Auto Start time will appear on the display for 5 seconds. |

## ONE MINUTE REPEAT

This is convenient, short cooking program which operates the oven for one minute on HIGH(10) power. If you've touched this pad after ending the stage cook 1 or 2, the oven cooks at the previously selected power level (stage COOK1, 2) for one minute.

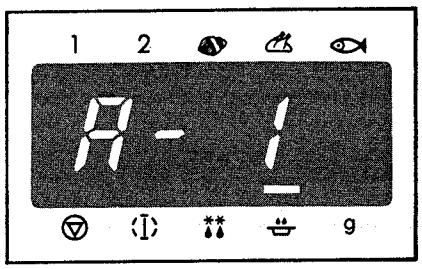
| DO THIS... | THIS HAPPENS... |
|---|---|
| **Example 1**<br>+1 min<br>1. Touch PAUSE/CLEAR pad.<br>2. Touch ONE MINUTE REPEAT pad. |  The oven starts automatically and cooks at power level 10 for one minute.<br>The Display counts down the time and the REPEAT Indicator Light starts blinking. |
| **Example 2**<br>+1 min<br>1. Touch ONE MINUTE REPEAT pad after ending the stage cook 1 or 2. |  The oven starts automatically and cooks at the selected power level stage cook 1 or 2.<br>The Display counts down the time and the REPEAT Indicator Light starts blinking. |

# AUTO REHEAT

Designed for reheating a variety of leftover foods. With this control, all you have to do is to enter your food selection. Touch this pad repeatedly for the food you select, then touch START. The oven does the rest automatically.

**DO THIS...** **THIS HAPPENS...**

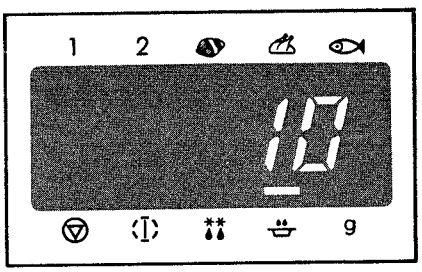
1. Touch the **REHEAT** pad.




The AUTO REHEAT Indicator Lights and food category "A-1" is displayed.
Keep pressing this pad to select other food category as shown in the chart below.

| CATEGORY | FOOD | WEIGHT | PROGRAMMED TIME (min.) |
|---|---|---|---|
| A – 1 | Meat Slices | 360 g | 4:30 |
| A – 2 | Casseroles | 2 Cups (450 g) | 4:30 |
| A – 3 | Soup | 290 g | 5 |
| A – 4 | Coffee | 1 mug (250 ml) | 1:50 |
| A – 5 | Plated Meals | 300 g | 4:30 |

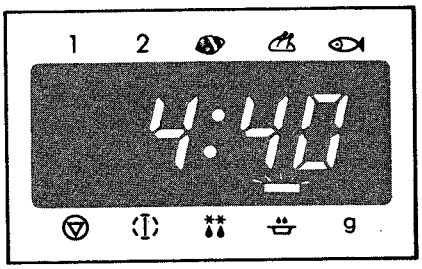
2. Touch the **MORE** or **LESS** pad.




The time category "10" is displayed. Keep pressing MORE or LESS pad to select other time category as shown in the chart below. This example shows category "10".

| PAD | CATEGORY | COOK TIME |
|---|---|---|
| (+) MORE | 10 | programmed time + 10 sec. |
| | 20 | programmed time + 20 sec. |
| (–) LESS | – 10 | programmed time – 10 sec. |
| | – 20 | programmed time – 20 sec. |

3. Touch the **START** pad.




AUTO REHEAT Indicator Light starts blinking and cooking time is displayed.
When the cooking time ends, you will hear 3 beeps.

**NOTE:** If step 2 is omitted, the oven will cook at the programmed time.

## MORE, LESS PADS

These pads only work during AUTO REHEAT mode.
When using the MORE or LESS pad, you see page 18.

## TO STOP THE OVEN WHILE IT IS OPERATING

1. Press the PAUSE/CLEAR pad once.
—You can restart the oven by touching START.
—Touch PAUSE/CLEAR pad once more to erase all instructions except for memory data.
—You must enter in new instructions.
2. Open the door.
—You can restart the oven by touching START.

**NOTE:** Oven stops operating when the door is opened.

# PRECAUTIONS FOR DISASSEMBLY AND REPAIR

—Cautions to be observed when trouble shooting.

Unlike many other appliances, the microwave oven is high-voltage, high-current equipment.
It is completely safe during normal operation. However, careleassness in servicing the oven can result in an electric shock or possible danger from a short circuit.
You are asked to observe the following precautions carefully.

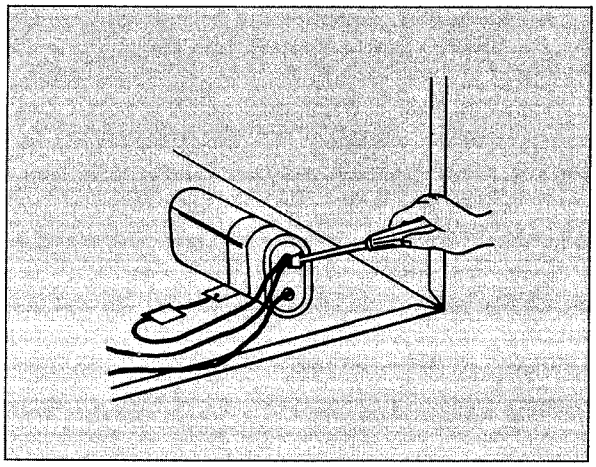
(1) Always remove the power plug from the outlet before servicing.

(2) Use an insulated screwdriver and war rubber gloves when servicing the high voltage side.

(3) Discharge the high voltage capacitor before touching any oven components or wiring.

1. **Check the grounding.**
   Do not operate on a two wire extension cord. The microwave oven is designed to be used when grounded.
   It is imperative, therefore, to makes sure it is grounded properly before begining repair work.

2. **Warning about the electric charge in the high voltage capacitor.**
   For about 30 seconds after the operation stops, electric charge remains in the high voltage capacitor. When replacing or checking parts, short oven chassis and the negative high terminal of the high voltage capacitor by using a properly insulated screw driver to discharge.



(4) When the 8 Amp fuse is blown out due to the operation of the monitor switch; replace primary, secondary interlock switch and monitor switch.
Refer to next page for the necessary adjustment.

(5) After repair or replacement of parts, make sure that the screw are properly tightened and all electrical connections are tightened.

(6) Do not operate without cabinet.

**CAUTION:** Servicemen should remove their watches whenever working close to or repairing the magnetron.

**WARNING:** When servicing the appliance, need a care of touching or replacing high potential parts because of electrical shock or exposing microwave. These parts are as follows—H.V. Transformer, Magnetron, H.V. Capacitor, H.V. Diode.

# MEASUREMENT

## 1. Microwave Output Power

### 1-1. Standard Method

Microwave output power can be checked by indirectly measuring the temperature rise of a certain amount of water exposed to the microwave as directed below.

1) Microwave power output measurement is made with the microwave oven supplied at rated voltage and operated at its maximum microwave power setting with a load of 1,000 ± 5cc of potable water.
2) The water is contained in a cylindrical borosilicate glass vessel having a maximum material thickness of 3 mm and an outside diameter of approximately 190 mm.
3) The oven and the empty vessel are at ambient temperature prior to the start of the test.
   The initial temperature of the water is 10 ± 2°c (50 ± 3.6°F).
   It is measured immediately before the water is added to the vessel. After addition of the water to the vessel, the load is immediately placed on the center of the shelf which is in the lowest normal position. (Fig. 1).
4) Microwave power is switched on.
5) Heating time should be exactly 46 seconds.
   Heating time is measured while the microwave generator is operating at full power.
   The filament heat-up time for magnetrons is not included.
6) The initial and final water temperatures are selected so that the maximum difference between the ambient and final water temperatures is 5K.
7) The microwave power output P in watts is calculated from the following formula:

$$P = 4187 \times \triangle T/t$$

- $\triangle T$ is actual temperature rise.
- t is the heating time.

The power measured should be 900W ± 10%.

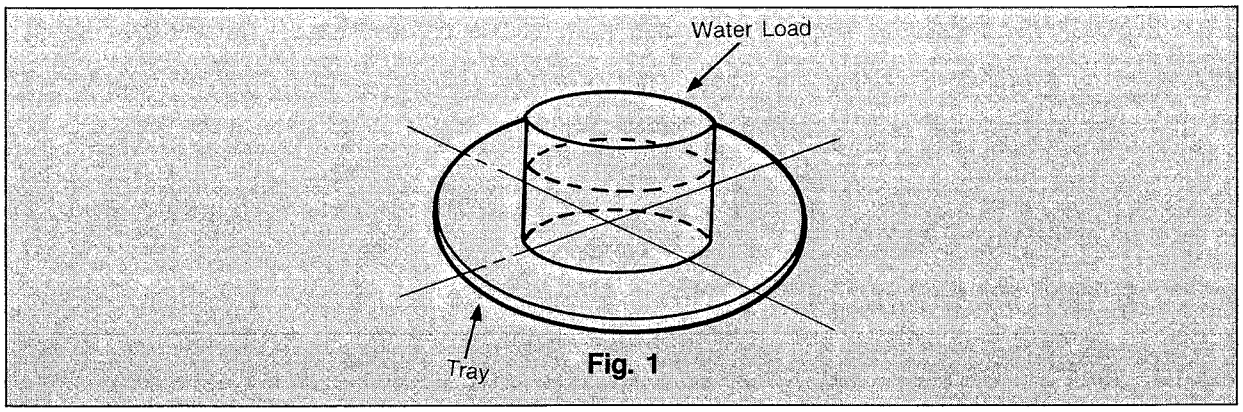



Fig. 1

**CAUTION:**
1. Water load should be measured exactly to 1 liter.
2. Input power voltage should be exactly 230 volts as specified.
3. Ambient temperature should be 20 ± 2°C (68 ± 3.6°F)

# MICROWAVE RADIATION TEST

## WARNING

- Make sure to check the microwave leakage after repair or adjustment.
- Always, start measuring of an unknown field to assure. Safety for operating personnel from microwave energy.
- Do not place your hands into any suspected microwave radiation field unless the safe density level is known.
- Care should be taken not to place the eyes in direct line with the source of microwave energy.
- Slowly approach the unit under test funtil the radiometer reads an appreaciable microwave leakage from the unit under the test.

## Procedure

A) Prepare Microwave Energy Survey Meter, 600cc glass breaker, glass thermometer 100°C or 212°F.

B) Pour 275cc ± 15cc of tap water initially at 20 ± 5°C (68 ± 9°F) in the 600cc beaker with a inside diameter of approx. 8.5cm.

C) Place it at the center of the tray and set it in a cavity.

D) Close the door and operate the oven.

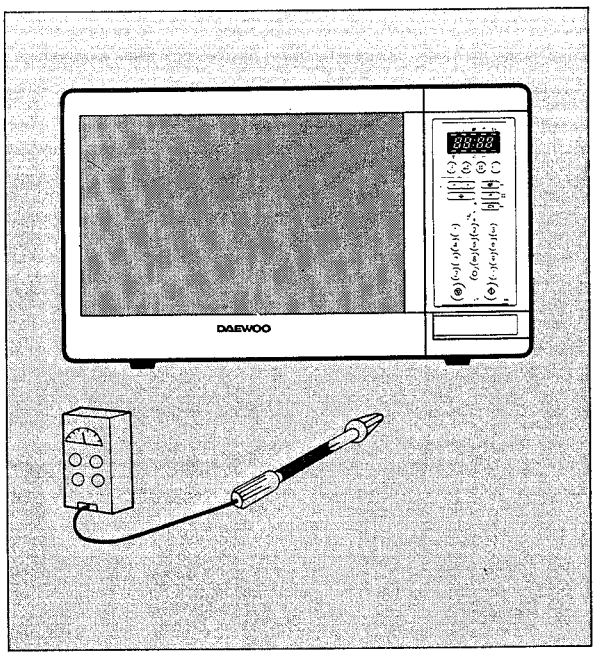
E) Measure the leakage by using microwave energy survery meter with dual ranges, set to 2,450 MHz.

—Measured radiation leakage must not exceed the values prescribed below.
- Leakage for a fully assembled oven with door normally closed must be less than 4mW/cm$^2$.

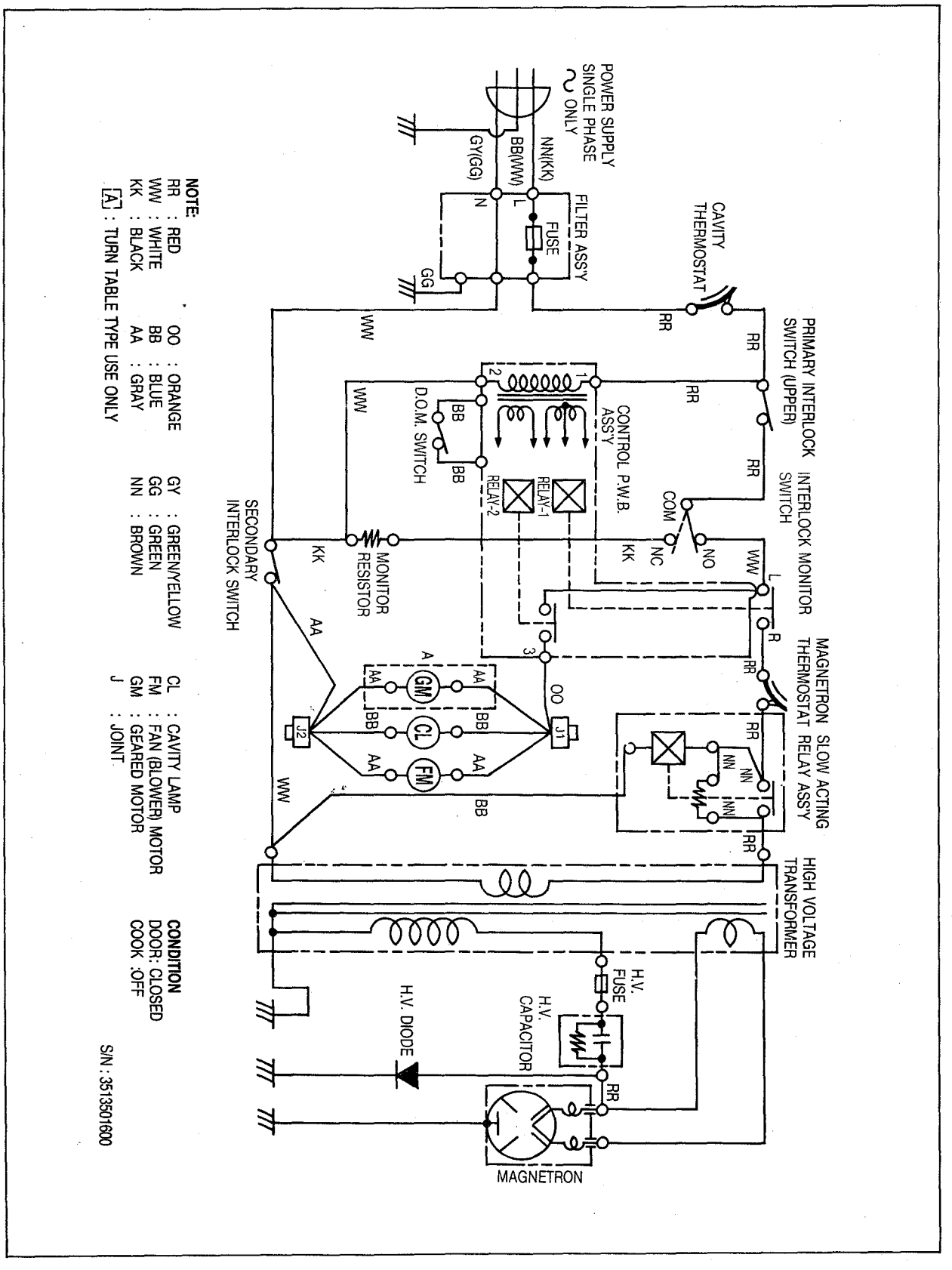
—When measuring the leakage, always use the 2 in (5cm) space cone with probe. Hold the probe perpendicular to the cabinet, door. Place the space cone of the probe on the door, cabinet, door seam, along the seam, the door viewing window, the exhaust air vents, the suction air vents.

—Measuring should be in a counter-clockwise direction at a rate of 1 inch/sec. If the leakage of the cabinet door seam is unknow, move the probe more slowly.

—When measuring near a corner of the door, keep the probe perpendicular to the areas making sure the probe end at the base of the cone does not get closer than 2 inches from any metal.
If it does, erroneous reading may result.



# KOR-804M WIRING DIAGRAM




**NOTE:**

RR : RED
WW : WHITE
KK : BLACK
[A] : TURN TABLE TYPE USE ONLY

OO : ORANGE
BB : BLUE
AA : GRAY

GY : GREEN/YELLOW
GG : GREEN
NN : BROWN

CL : CAVITY LAMP
FM : FAN (BLOWER) MOTOR
GM : GEARED MOTOR
J : JOINT

**CONDITION**
DOOR: CLOSED
COOK :OFF

S/N : 3513501600

# CIRCUIT DESCRIPTION

Refer to the "WIRING DIAGRAM" on page 23.

## MICROWAVE COOKING

## TIME COOKING

**1. When the food is placed inside the oven door is closed.**

1) The low voltage transformer supplies the necessary voltage to the touch control circuit when the power cord is plugged in.
2) The contacts of the interlock monitor switch open.
   This switch creates short circuit to below 8A fuse and stop magnetron oscillation when door is opened during operation under abnormal condition (i.e. both the contacts of primary interlock switch do not open the circuit).
3) The contact of primary interlock switch close the primary circuit.

**2. When cooking cycle, power and time are set by touching the function pads and the desired numerical pads.**

1) Cooking the function indicating bar located on the digital light to indicate that function have been set.
2) The time you set appears in the display window.
3) The touch control circuit memorizes the cooking program you set.

**3. When the start pad is touched.**

* The RELAY "1" and "2" are controlled by the touch control circuit.

1) 230VAC is applied to the high voltage transformer through the contacts of RELAY "1" (See page 23)
2) Fan motor starts rotating and cools the magnetron by blowing the air coming from the intake on the rear back hole.
3) The oven lamp lights the inside of the oven.
4) Indicator light turns on to indicate function operation. Cooking time starts count down.
5) 3.3 Volts AC is generated from the filament winding of the high voltage transformer. This filament voltage is applied to the magnetron to heat the magnetron filament through two noise preventing choke coils.
6) A high voltage of 2000 Volts AC is generated in the secondary of high voltage transformer and this secondary voltage is increased by the action of the diode and the charging of the high voltage capacitor. This resultant DC voltage is then applied to the anode of the magnetron. As shown in Fig. 2 the first half cycle of the high voltage produced in the high voltage transformer secondary charges the high voltage capacitor. Current flow is in the direction of the dotted-line during the second half cycle, the voltage produced by the transformer secondary, and the charge of the high voltage capacitor are combined and applied to the magnetron as shown by the solid line so that oscillations begins.
   The disturbance wave generated by the magnetron is prevented by the choke coils filter capacitors and the magnetron's shielded case so that TV and Radio programs are not impaired by noise.

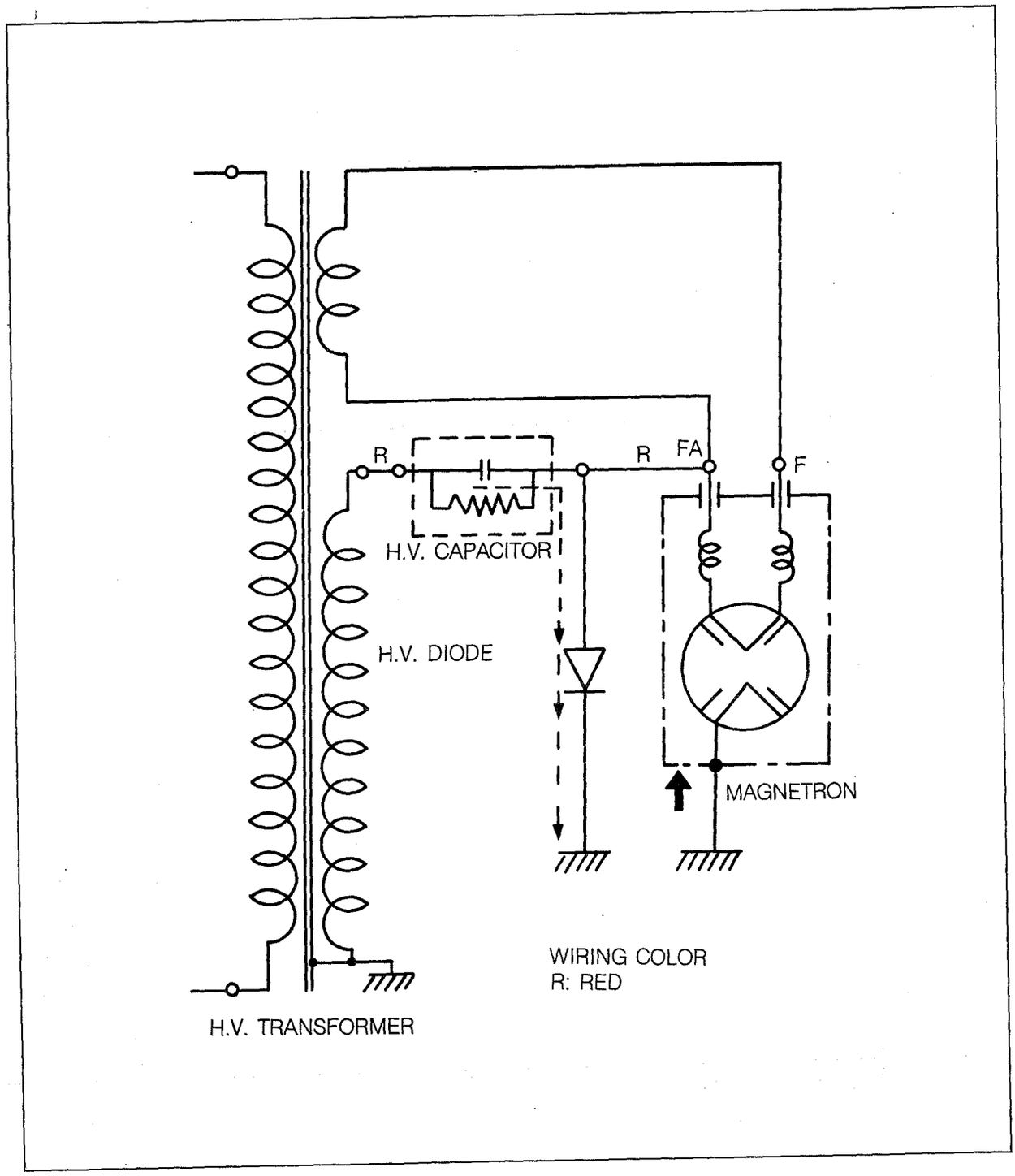



**Fig. 2**

The touch control circuit controls the ON-OFF time of RELAY "1" in order to vary the output power of the microwave oven from "power level 1" to "Full (100%) power".
The relation between indications on the control panel and the output of the microwave oven is as shown in Fig. 3.

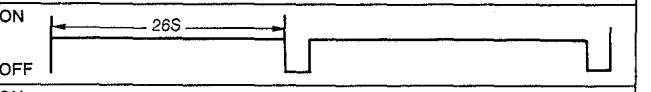
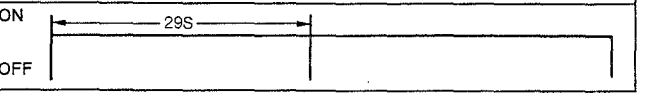
| POWER LEVEL | OUTPUT POWER AGAINST FULL POWER | RELAY "1" TURN ON, OFF TIME |
|---|---|---|
| 1 | 3/29 (10%) |   |
| 2 | 5/29 (17%) |   |
| 3 | 8/29 (28%) |   |
| 4 | 11/29 (38%) |   |
| 5 | 14/29 (48%) |   |
| 6 | 17/29 (59%) |   |
| 7 | 20/29 (69%) |   |
| 8 | 23/29 (79%) |   |
| 9 | 26/29 (90%) |   |
| 10 | 29/29 (100%) |   |

**Fig. 3**

**AUTO WEIGHT DEFROST CYCLE**

When auto defrost is selected and the desired defrosting time is chosen, the automatic cycle divides the defrosting time into 5 periods of alternating defrost and stand times, by cycling on and off.

**4. When the door is opened during cooking.**

1) The primary interlock switch is opened to cut off primary voltage to the high voltage transformer to stop microwave oscillation.
2) The secondary interlock switch is opened to give the door open information to touch control circuit. The contacts of the RELAY "1" and "2" open, the display stops counting down.
3) Fan motor and turn table motor stop rotating.
4) The oven lamp turns off.
5) As soon as the door is opened, the interlock monitor switch contacts close and creats the short circuit.
6) If the contacts of primary interlock switch malfunction the 8A fuse blows open due to the large current surge caused by the short circuit activation, and this in turn stops magnetron oscillation (Fig. 1).

**5. When the PAUSE/CLEAR pad is touched during cooking.**

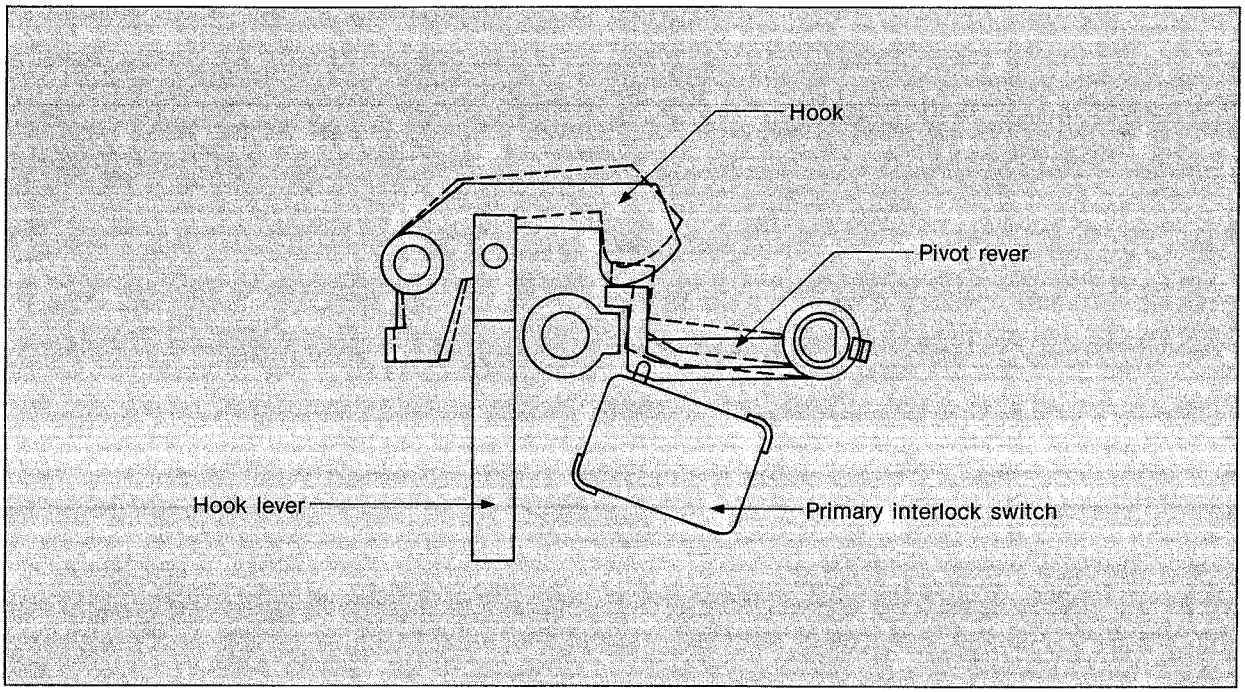
1) The touch control circuit cuts the voltage supplied to the RELAY "1" coil causing the magnetron to stop oscillation.
2) The RELAY "2" turns off.
3) The display will show the time of day. If you didn't set the clock, the display will show a colon.
4) The Oven lamp turns off.
5) Fan motor and turn table motor stop rotating.

# INTERLOCK MECHANISM

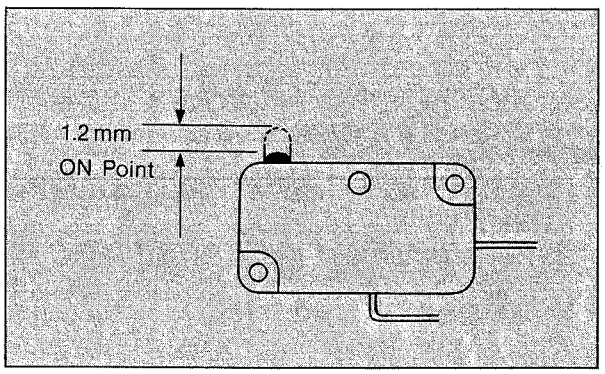
The door lock mechanism is a device which has been specially designed to completely eliminate microwave radiation when the door is opened during operation, and thus to perfectly prevent the danger resulting from the leakage of microwave.

### (1) Primary interlock switch

When the door is closed, the hook locks the oven door.
If the door is not closed properly, the oven will not operate.
When the door is closed, the hook pushes the lever downward.
The lever presses the button of the primary interlock switch to switch it 'ON'.

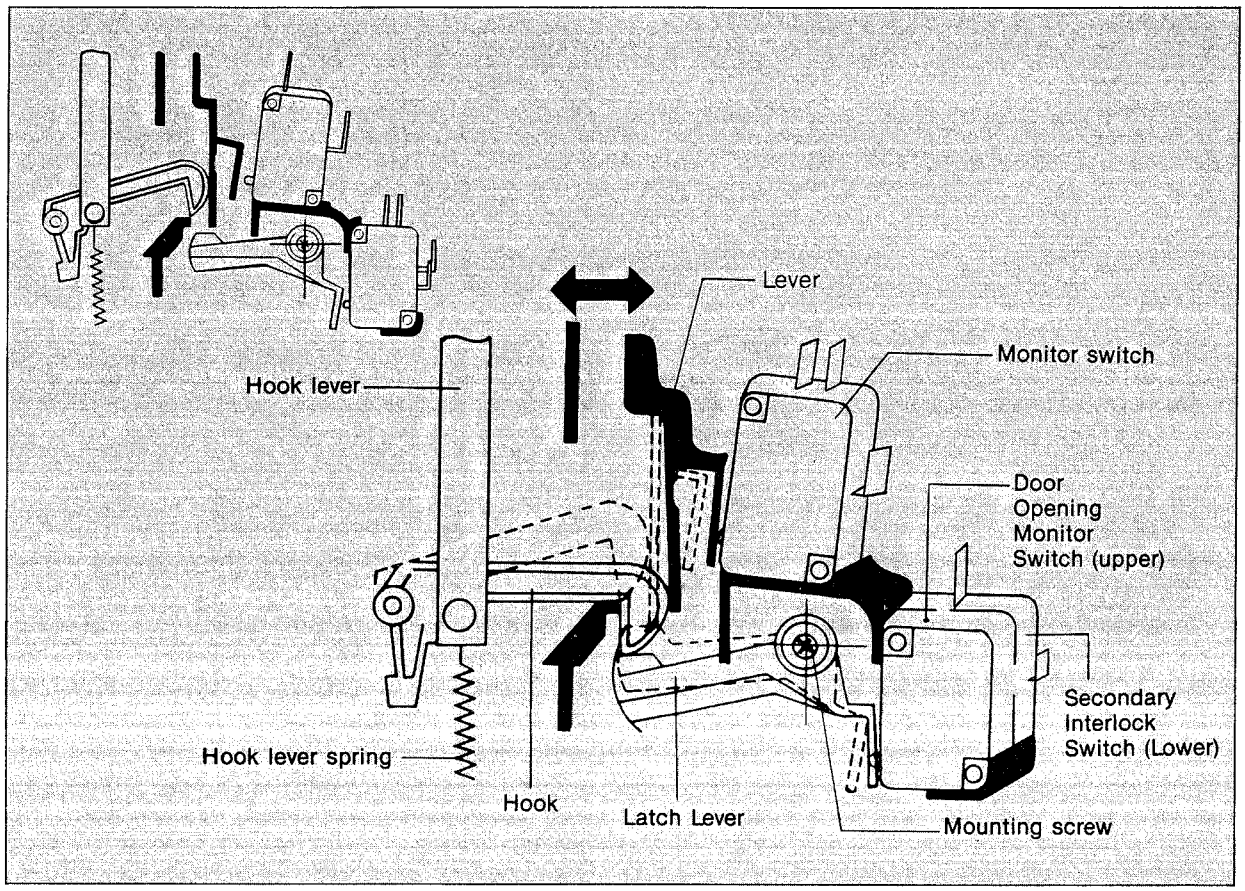



**Adjustment 1.**
When the door is closed, the switch button is pushed by the hook.
The movement of the switch button should exceed 1.2mm measured at the top of the button.



**(2) Secondary interlock switch and interlock monitor switch**

When the door is closed, the hook pushes the lever forward, and pushes the Latch Lever downward the lever presses the button of the interlock monitor switch to bring it under 'OFF' condition. The Latch Lever presses the button on the secondary interlock switch to bring it under 'ON' condition.




**Adjustment 2.**

Interlock monitor switch

When the door is closed, the interlock monitor switch should be opened before other switches close. When the door is opened, the interlock monitor switch should be closed after other switches open.

Secondary interlock switch

The movement of the switch button should exceed 1.2mm measured at the top of the button.

**(3) Adjustment step:**

a) Loosen the two mounting screws.
b) Adjust the interlock switch assembly position.
c) Confirm the gap (1.2mm) described above.
d) Completely tighten the two mounting screws.

**NOTE:** Microwave emission test should be performed after adjusting interlock mechanism. If the microwave emission exceed 4mW/cm$^2$, readjust interlock mechanism.

**(4) Interlock switch replacement**

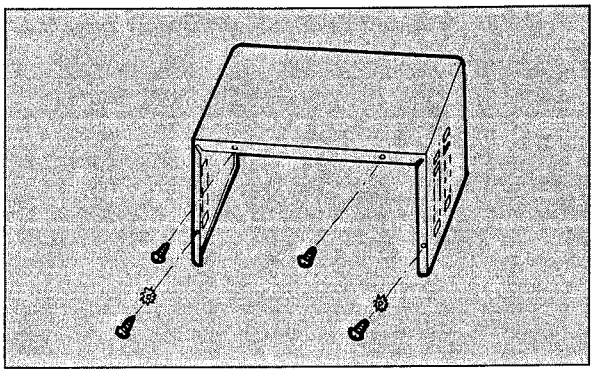
Whenever safety interlock switch are replaced:

1) Refer to the following diagram.
2) Perform the electrical continuity check of interlock switches and microwave emission test mentioned in this manual.

# DISASSEMBLY AND ASSEMBLY

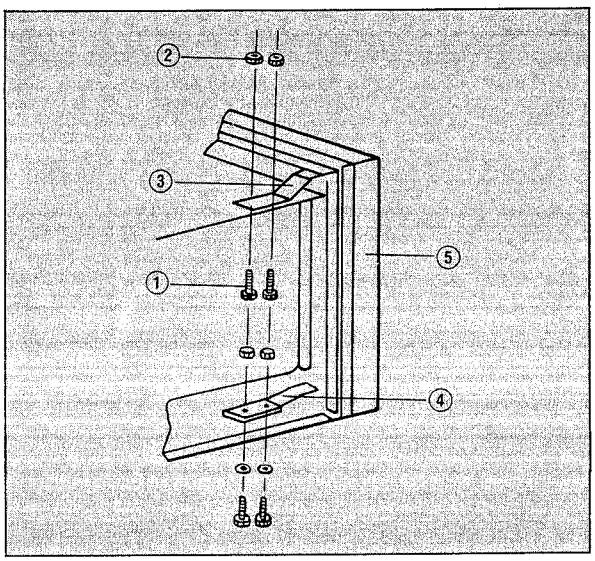
**1. To remove cabinet.**

Remove four screws on cabinet back.

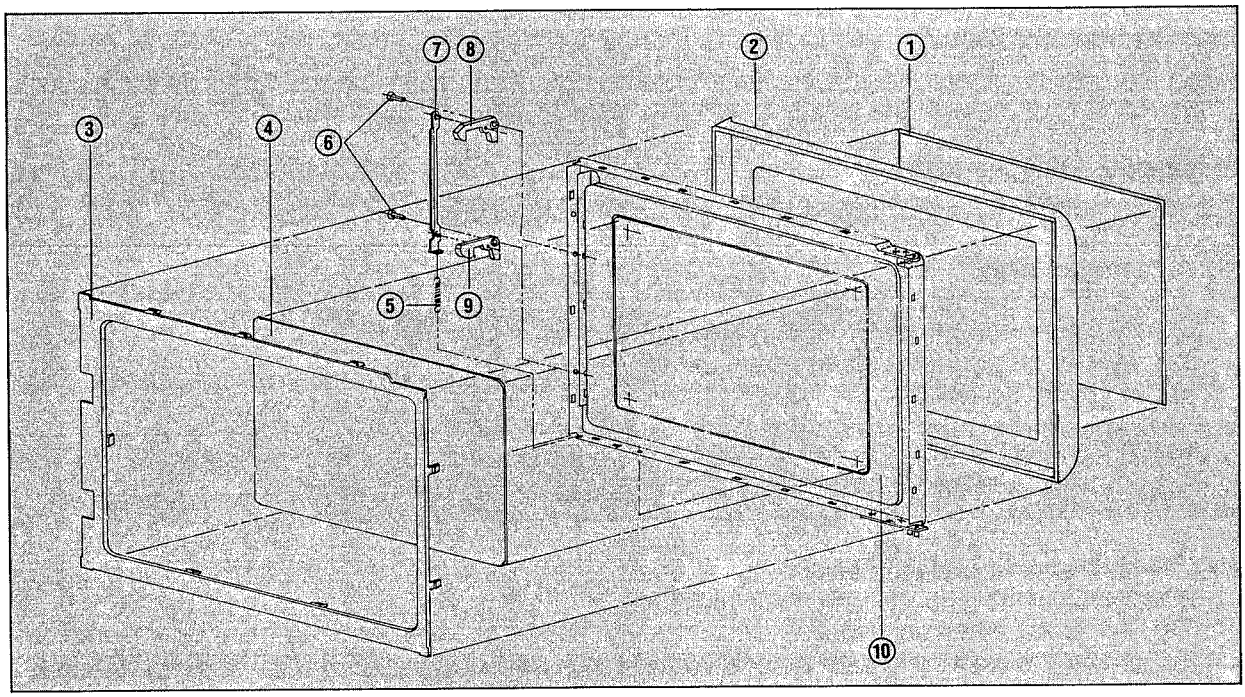


**2. To remove door assembly.**

(1) Remove four bolts ①, nuts ② which secure top hinge and under hinge stopper, respectively.
(2) Remove the top door hinge ③ and under hinge stopper ④.
(3) Remove door assembly ⑤.
(4) Reverse the above for reassembly taking case to replace fixing glue.



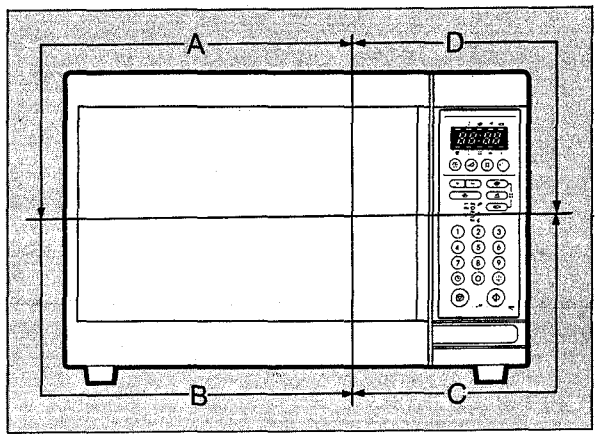

**3. To remove door parts.**



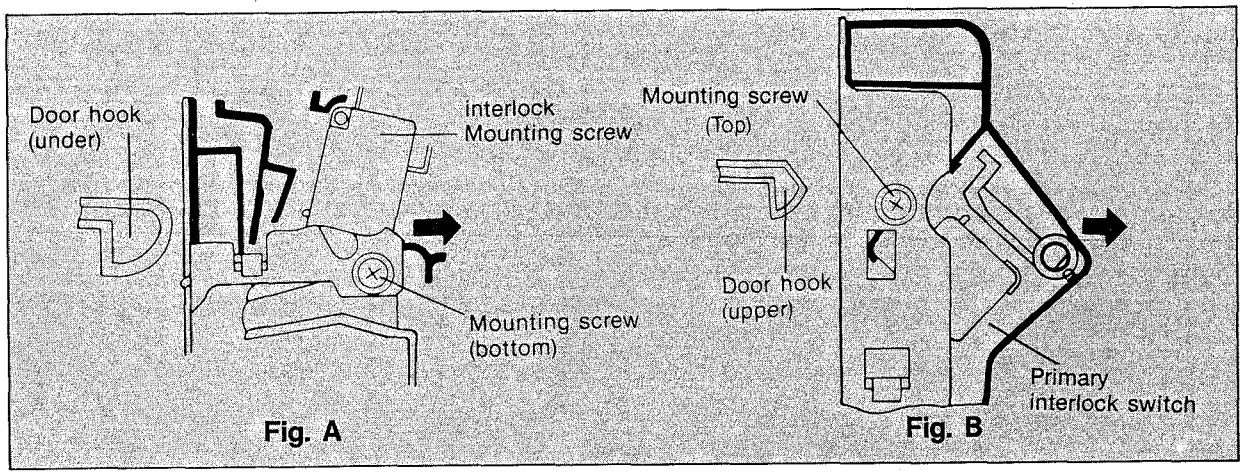
(1) Remove the out plate ① and door frame ②.
(2) Remove the microwave absorber ③ and film ④.
(3) Remove a spring two hook pins a hook lever ⑦ and two hooks ⑧, ⑨.
(4) The door weld assembly ⑩.
(5) Revers the above steps for reassembly.

## 4. Method to reduce the gap between the door seal and the oven front surface.

(1) To reduce gap located on part 'A'.
   1) Loosen two bolts and nuts. On top door hinge stopper, then push the door to contact the door seal to oven front surface.
   2) Tighten two bolts and nuts.




(2) To reduce gap located on part 'B'.
   1) Loosen two bolts and nuts on under hinge stoppe, then push the door to contact the seal to oven front surface.
   2) Tighten two bolts and nuts.
(3) To reduce gap located on part 'C'. (See Fig. A)
   1) Remove the cabinet.
   2) Loosen a screw on interlock switch assembly located bottom of oven body.
   3) Draw the interlock switch assembly inward as possible to engage with hook on the door bottom.
   4) Tighten a screw.
(4) To reduce gap located on part 'D' (See Fig. B)
   1) Remove the cabinet.
   2) Loosen a screw on interlock switch assembly located top of over body.
   3) and (4) are same as step (3).

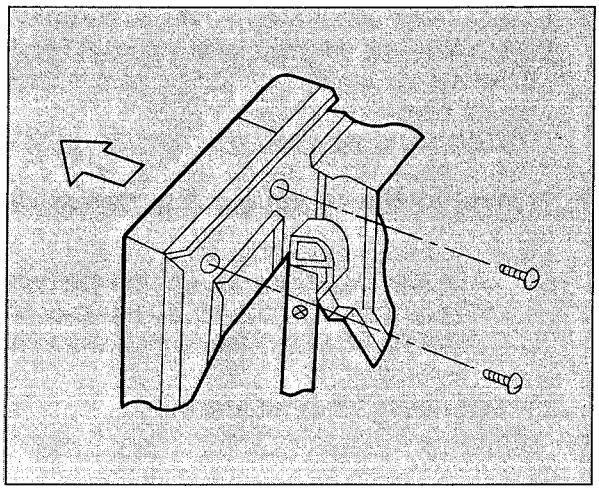



**NOTE:** A small gap may be acceptable if the microwave leakage does not exceed 1mW/cm$^2$.

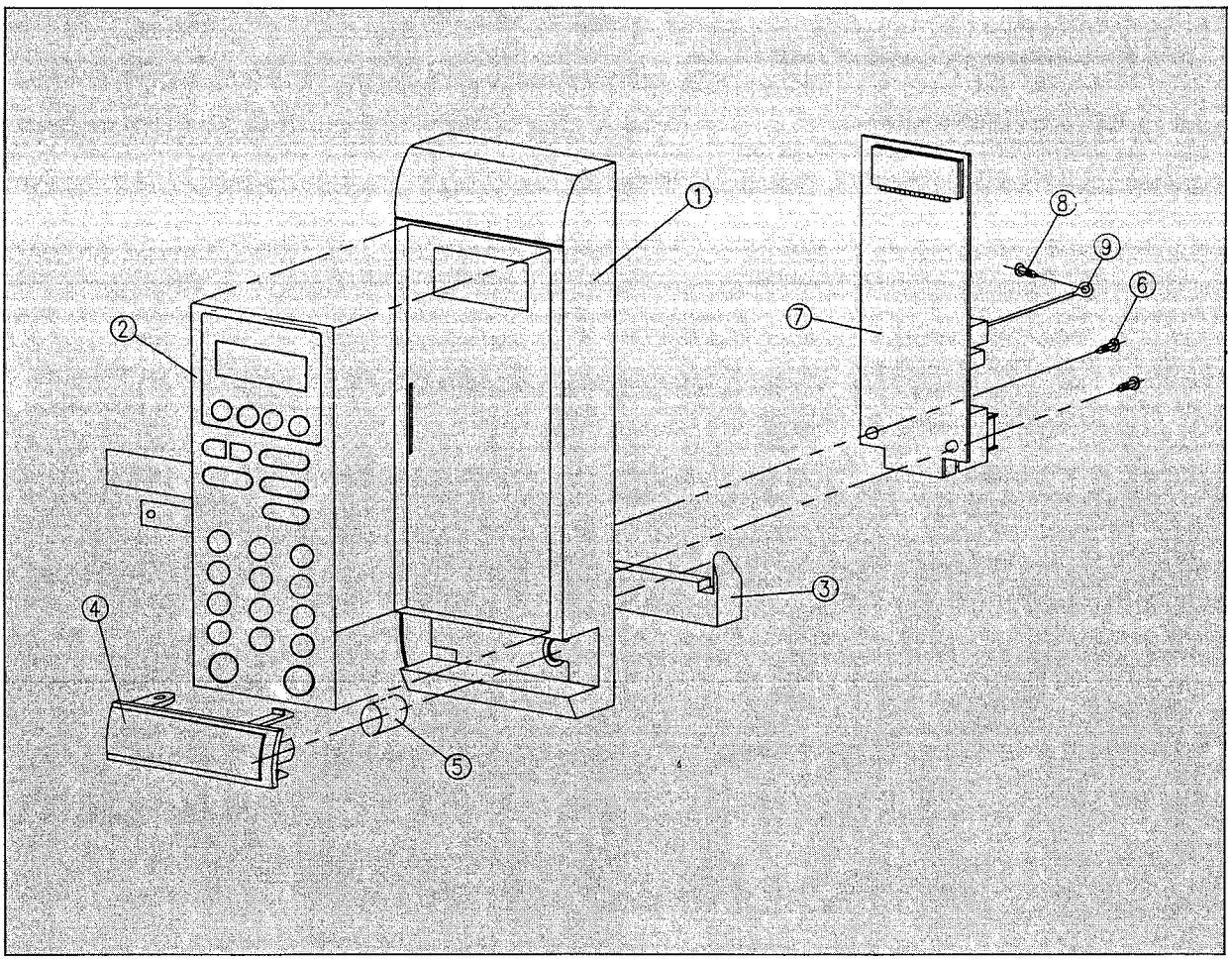
## 5. To remove control panel assembly.

(1) Disconnect two connectors and two terminals on the printed circuits board assembly and remove a screw ⑧ holding the grounding ring terminal ⑨ of P.C.B. assembly, which secured oven front.

(2) Remove two screws holding control panel assembly to the oven front. At the same time, draw forward the control panel assembly from oven front.
(3) Remove the push lever ③.
(4) Remove the two screws ⑥.
(5) Remove push button ④ and button spring from control panel ⑤.
(6) Reverse the above steps for reassembly.

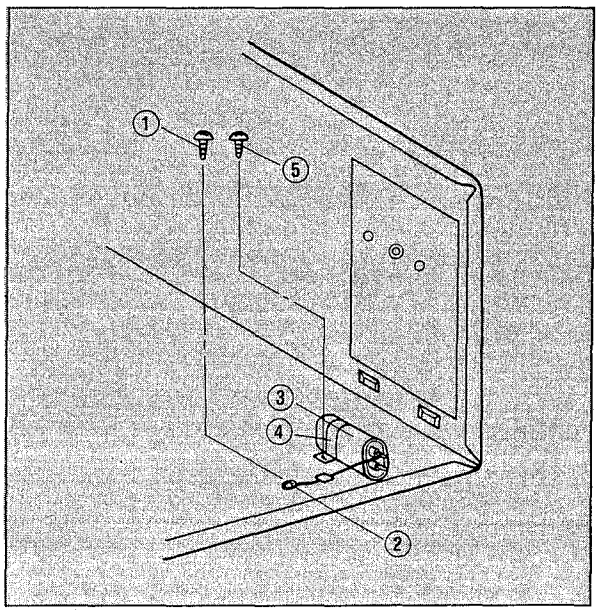


**NOTE:** Do not attempt to remove membrane key board ② except for replacement.

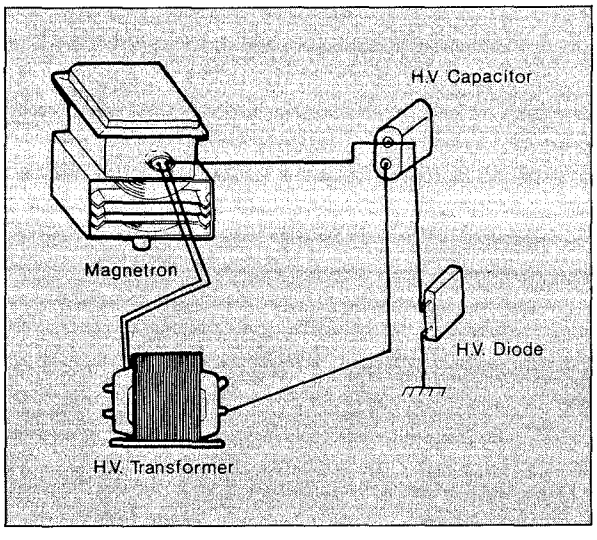


## 6. To remove high voltage capacitor.

(1) Remove a screw ① which secure the grounding ring terminal ② of diode and capacitor holder ④.
(2) Remove a screws ⑤ which secure the capacitor holder ④.
(3) Remove capacitor holder ④ with capacitor ③.
(4) Reverse the above steps for reassembly.

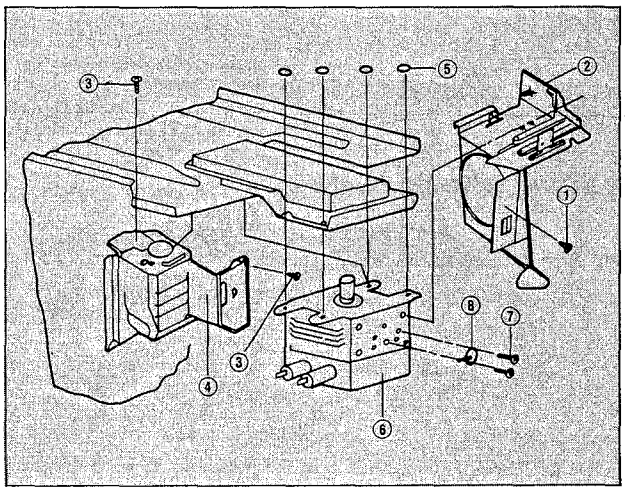



High voltage circuit wiring

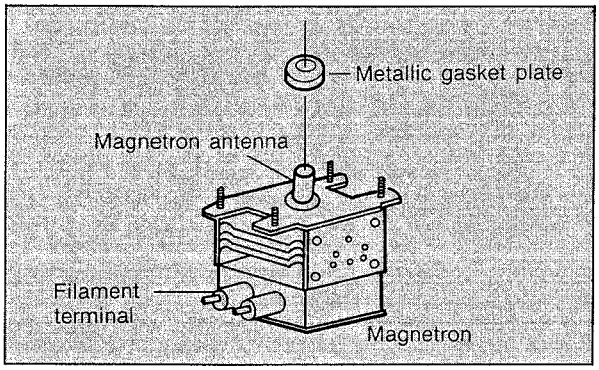


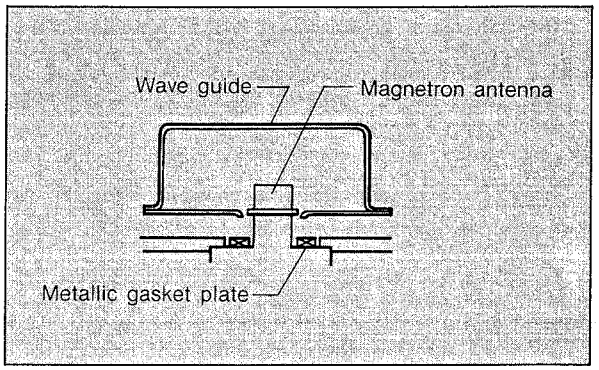

## 7. To remove magnetron.

(1) Remove a screw ① which secure the wind guide.
(2) Remove the wind guide ②.
(3) Remove two screws ③ which secure the duct.
(4) Remove the duct ④.
(5) Remove foru nuts ⑤ which secure the magnetron ⑥.
(6) Remove the magnetron.
(7) Remove two screws ⑦ which the thermostat ⑧.
(8) Remove the thermostat.
(9) Reverse the above steps sfor reassembly.



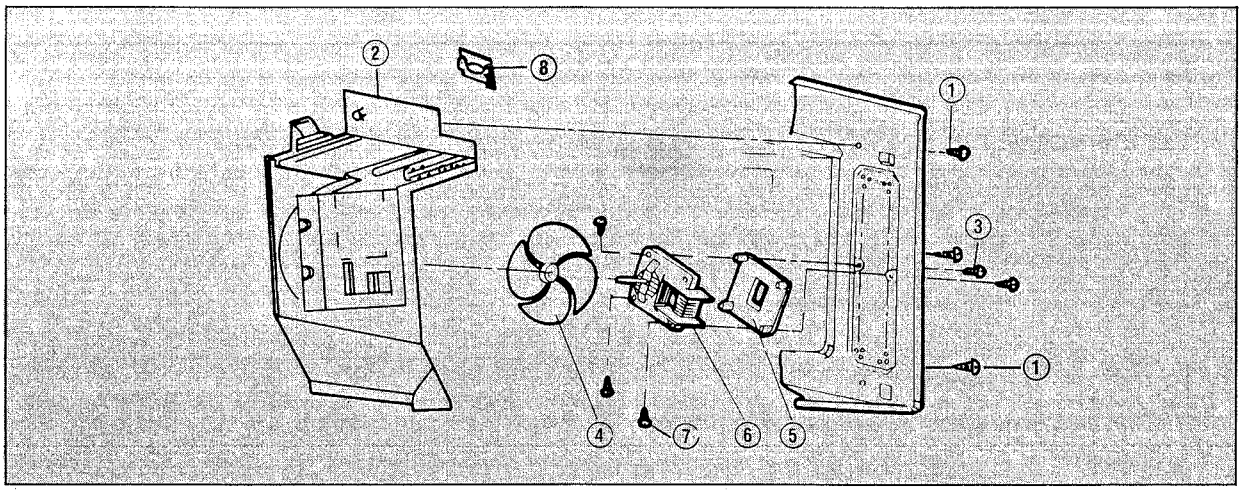
**CAUTION:** Never install the magnetron without the metallic gasket plate which is packed with each magnetron to prevent microwave leakage. Whenever repair work is carried out on magnetron, check the microwave leakage. It shall not exceed 4mW/cm$^2$ for assembled oven with door normally closed..



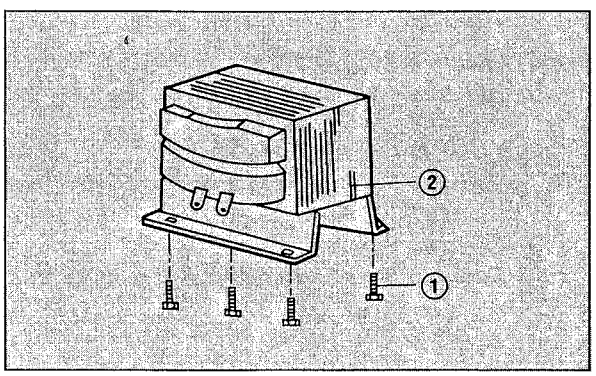

## 8. To remove fan motor assembly and wind guide.

(1) Remove three screws ①.
(2) Remove power cord bushing bracket ⑧.
(3) Remove wind guide ②.
(4) Remove three screws ③ holding the fan motor bracket ⑤.
(5) Remove fan ④.
(6) Remove three screws ⑦ and separate the bracket ⑤ from the fan motor ass'y ⑥.
(7) Reverse the above for reassembly.




## 9. To remove transformer.

(1) Remove four screws ①, holding transformer.
(2) Remove the transformer ②.
(3) Reverse the above steps for reassembly.



# TROUBLE SHOOTING GUIDE

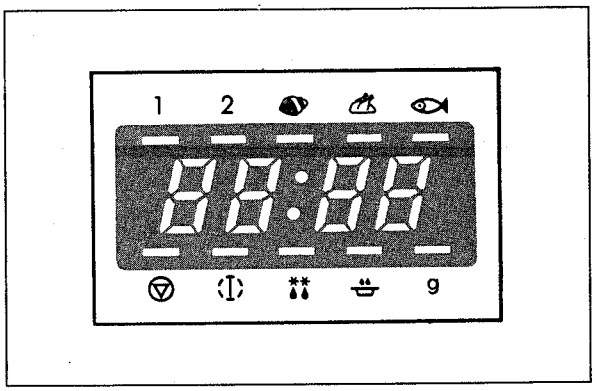
**Following the procedures below to check if the oven is defective or not.**

1. Check grounding before checking trouble.
2. Be careful of the high voltage circuit.
3. Discharge the high voltage capacitor. (see page 20)
4. When checking the continuity of switches or of the high voltage transformer, disconnect one lead wire from these parts and then check continuity with the AC plug removed. To do otherwise may result in false reading or damage to your meter.
5. Do not touch any part of the circuity on the touch control circuit since static electric discharge may damage this control panel.
   Always touch yourself to grounding parts while working on this panel to discharge any static charge built up in your body.

   First of all, operate the microwave oven according to the correct operation procedures described on page 8~19 in order to find the exact cause of any troubles.

**TROUBLE 1. The following visual conditions indicate a probable defective P.C.B. assembly or membrane switch assembly.**

1. Incomplete segments.
   (A) Segments missing.
   (B) Partical segments missing.
   (C) Digit flickering other than normal fluorescent slight flickering.
   (D) "1:00" does not display when power is on.
2. A distinct change in the brightness of one or more numbers in the display.
3. One or more digits in the display are not on when they should be.
4. Display indicates a number different from one touched.
5. For example, touch 5 and 3 appears in the display.
6. Specific numbers (for example 2 or 3) will not display when the panel is touched.
7. Display does not count down or up with time cooking or clock operation.
8. The oven programmable and cooks normally but no display shows.
9. Display obviously jumps in time while counting down.
10. Display counts down noticeably too fast while cooking.
11. Display can not shift from the first stage cooking to the third stage cooking while 3 phase cooking (including AUTO WEIGHT DEFROST).
12. Display does not show the time of day when dear pad is touched.
13. The oven lamp and fan motor and turn table motor do not stop although cooking is finished. Check if the RELAY "2" contacts close if they are close, replace touch control circuit.



**(TROUBLE 2) Digital readout display does not show programming, even if the memberane keyboard is programmed by touching proper pads.**

| Condition | Check | Result | Cause | Remedy |
|---|---|---|---|---|
| Display does not show programming at all, even if keyboard is touched | Check each pad for continuity of the membrane keyboard for the following keyboard check procedure | Normal | Malfunction of touch control circuitry of control box sub-assembly | Replace control box sub-assembly |
| | | Abnormal | Malfunction of the membrane keyboard | Replace the membrane keyboard |

**NOTE:** Before following the particular steps listed above in the trouble shooting guide for the membrane keyboard, failure, please check for the continuity of each wire harness between the membrane keyboard and control box assembly.

## MEMBRANE KEYBOARD CHECK PROCEDURE

**1. Check the pad termination order and nomenclature.**

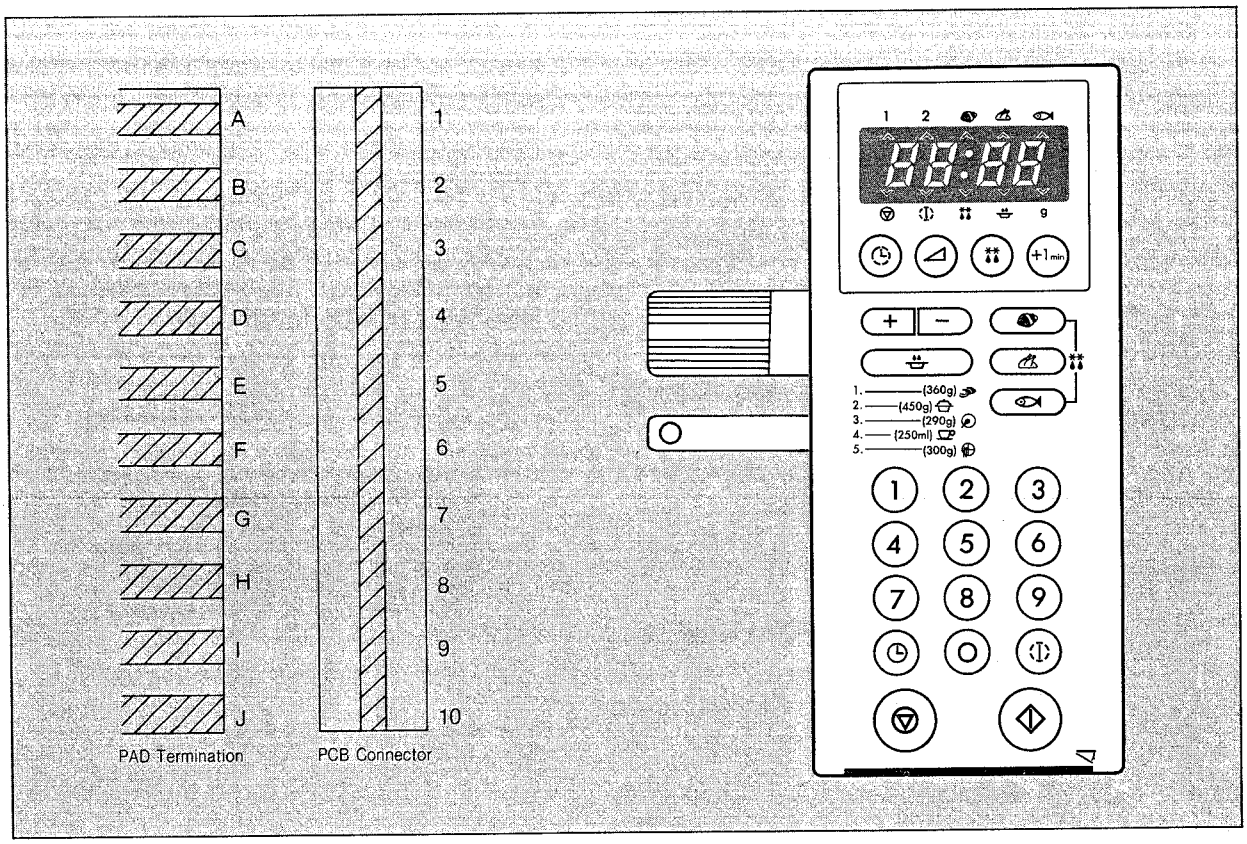



**Fig. 4**

## 2. Type of encoding and pad names.

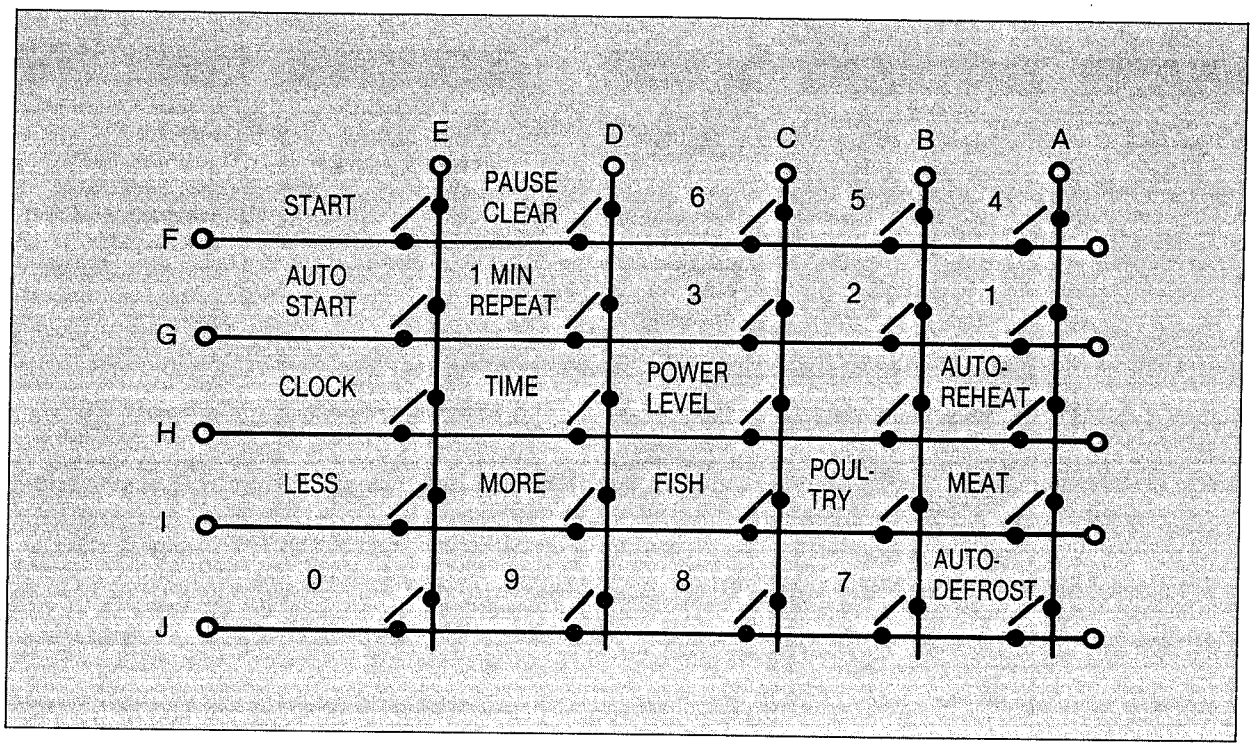



**Fig. 5 Key Matrix**

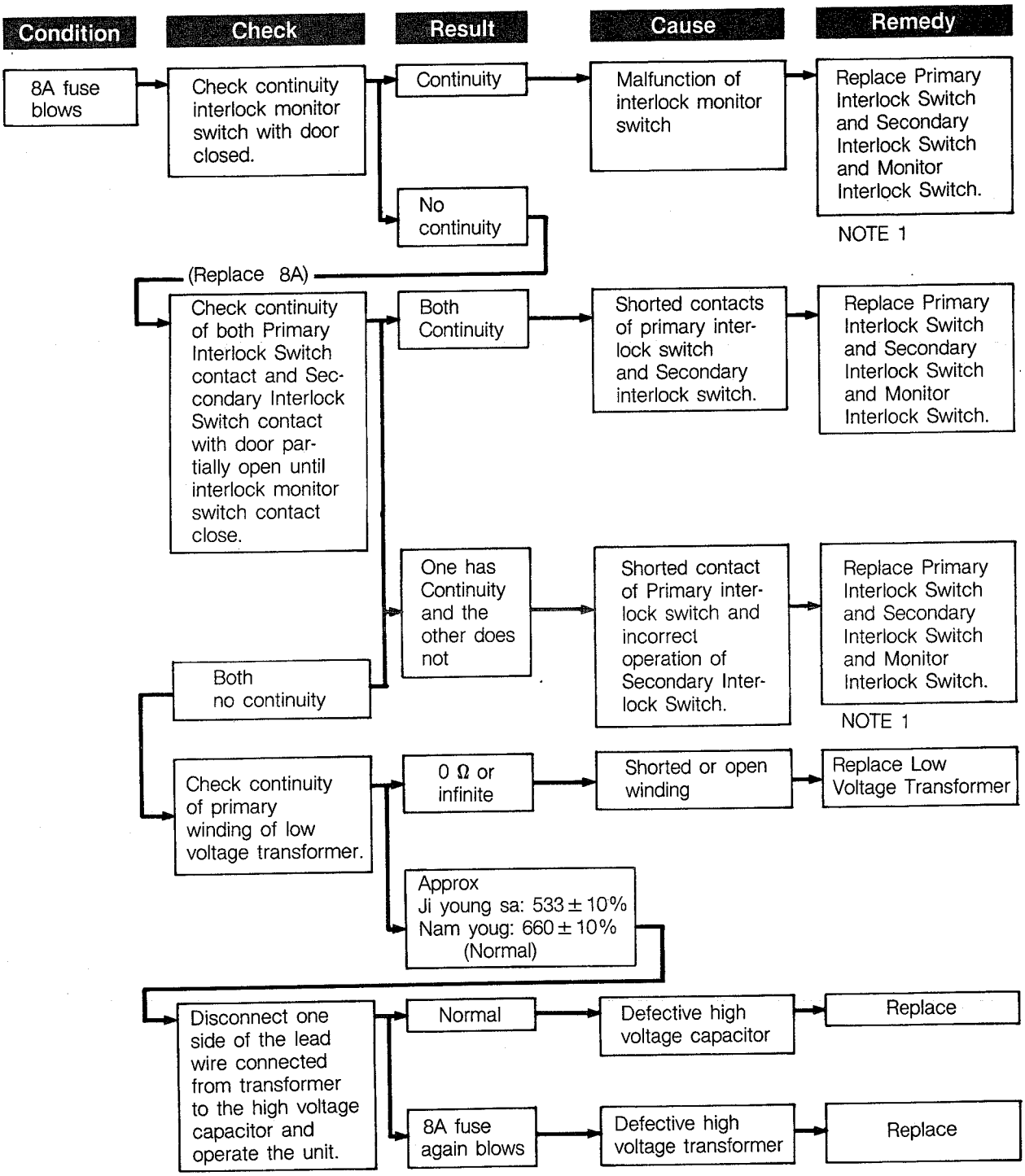
The membrane keyboard consists of 24 keys whose configurations are described above and provide 10 pad terminations to be connected to the touch control circuit as Fig. 4.

## 3. Key check procedure.

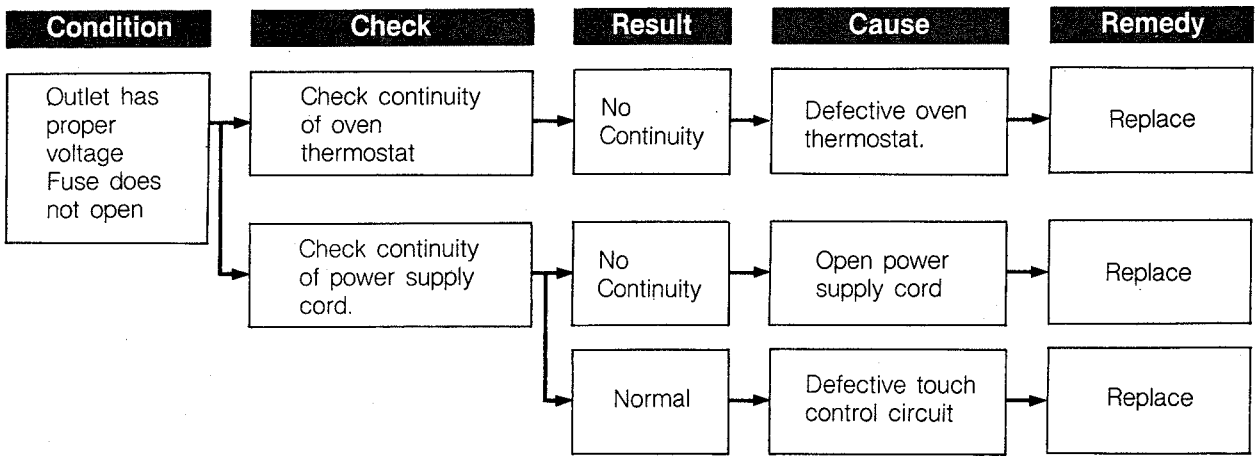
To determine if the membrane keyboard is defective or not, check the continuity of each pad (Key) contacts with a multimeter.

| | | | |
|---|---|---|---|
| 1) MORE | pad : Between D and I | 13) MEAT | pad : Between A and I |
| 2) LESS | pad : Between E and I | 14) 6 | pad : Between C and F |
| 3) START | pad : Between E and F | 15) 7 | pad : Between B and J |
| 4) FISH | pad : Between C and I | 16) 8 | pad : Between C and J |
| 5) POULTRY | pad : Between B and I | 17) 9 | pad : Between D and J |
| 6) ONE MINUTE REPEAT | pad : Between D and G | 18) 0 | pad : Between E and J |
| 7) PAUSE/CLEAR | pad : Between D and F | 19) 1 | pad : Between G and A |
| 8) POWER LEVEL | pad : Between C and H | 20) 2 | pad : Between G and B |
| 9) CLOCK | pad : Between E and H | 21) 3 | pad : Between C and G |
| 10) AUTO REHEAT | pad : Between A and H | 22) 4 | pad : Between F and A |
| 11) AUTO START | pad : Between E and G | 23) 5 | pad : Between B and F |
| 12) AUTO DEFRSOT | pad : Between J and A | 24) TIME | pad : Between D and H |

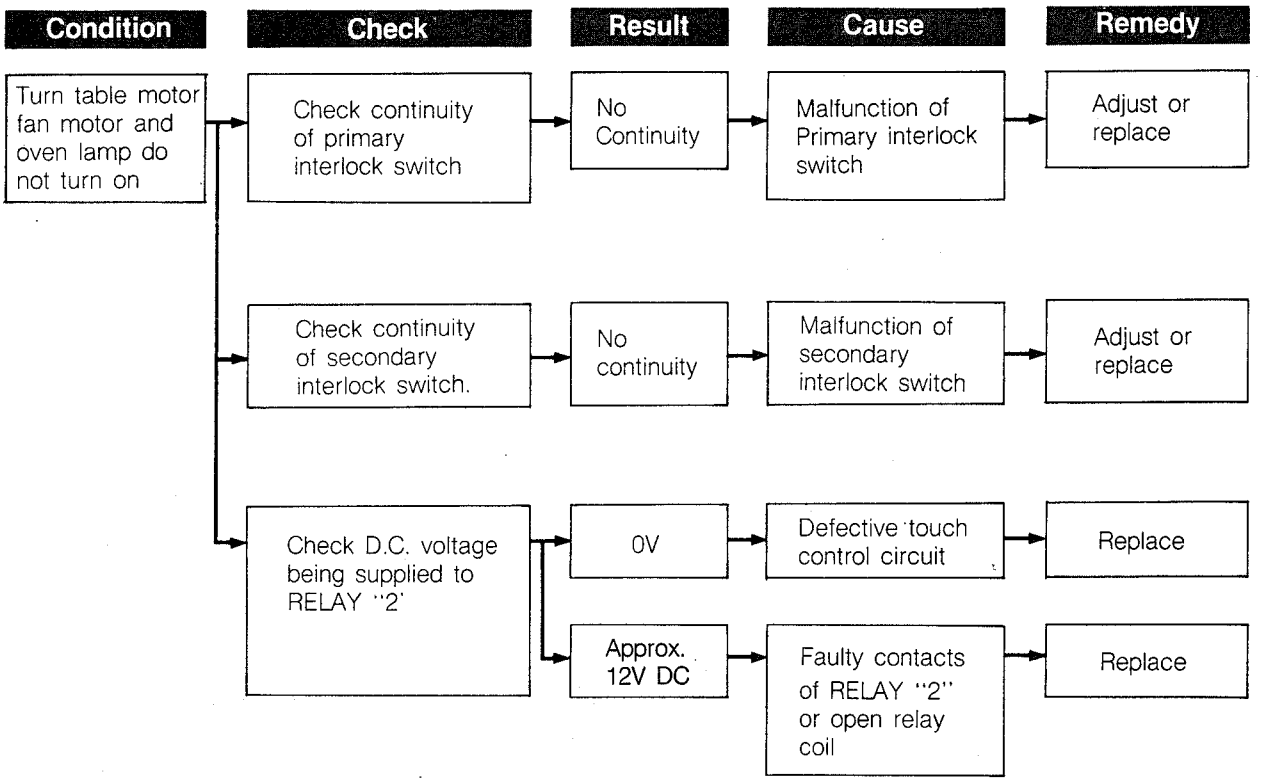
**(TROUBLE 3) Oven does not operate at all; Display window does not display any figures and any inputs can not be accepted.**

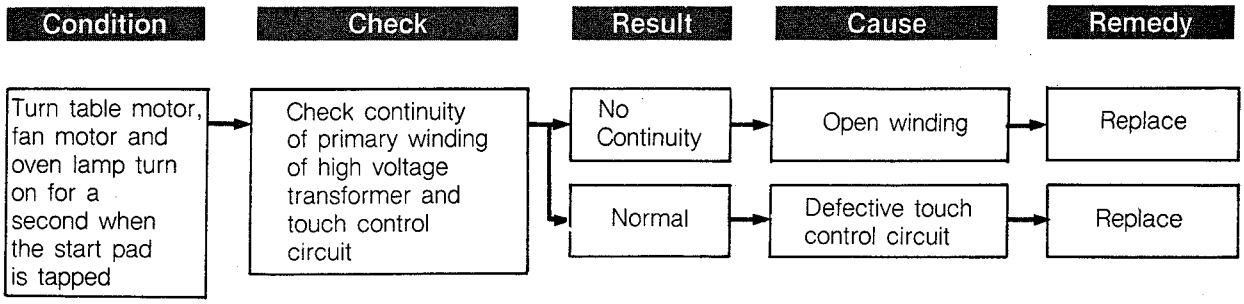



**NOTE 1:** All these switches must be replaced at the same time, please refer to page 27 and 28 for adjustment instructions.

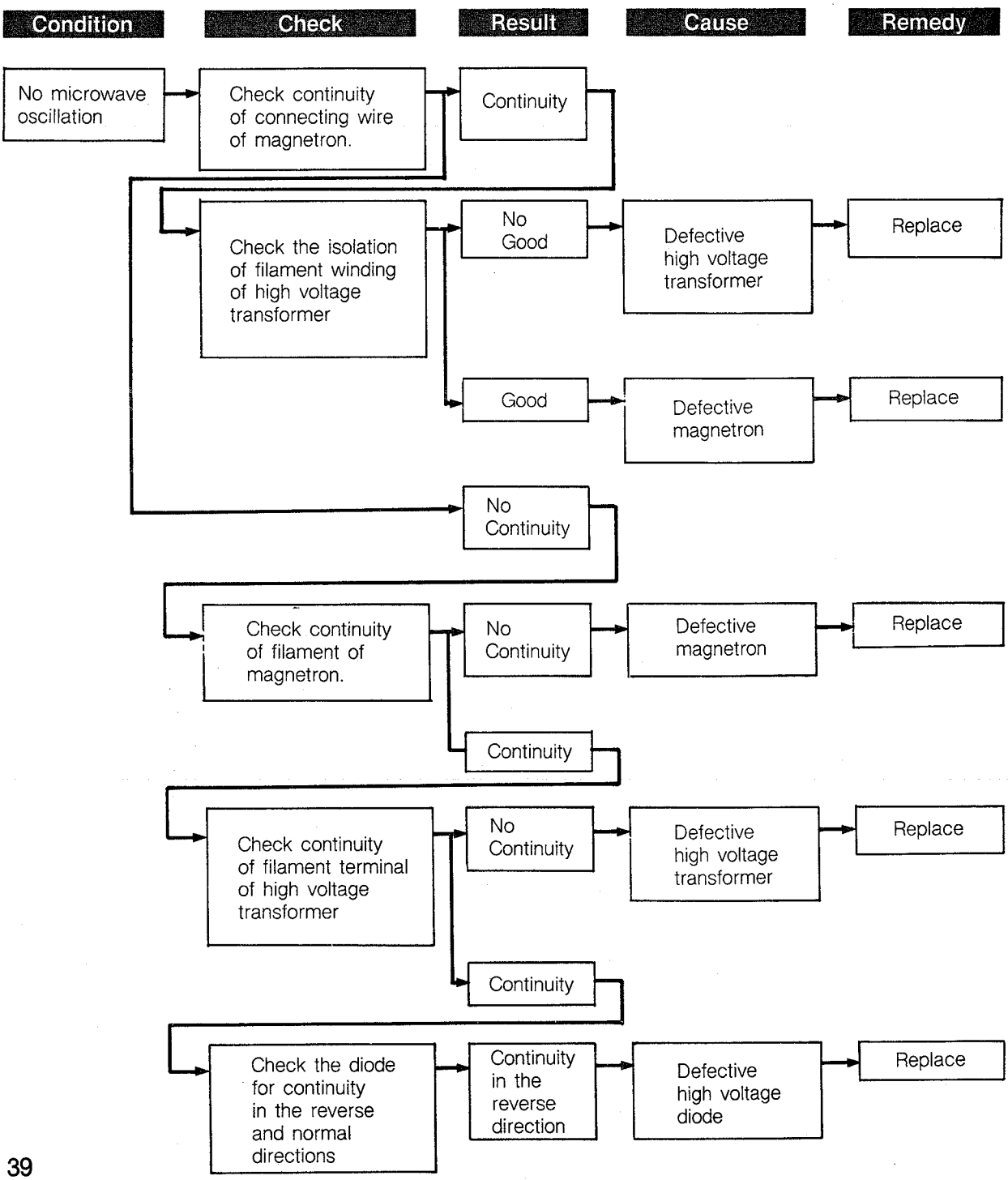



**(TROUBLE 4) Display shows all figures selected, but oven does not start cooking, even though desired program and time are set and start pad is tapped.**

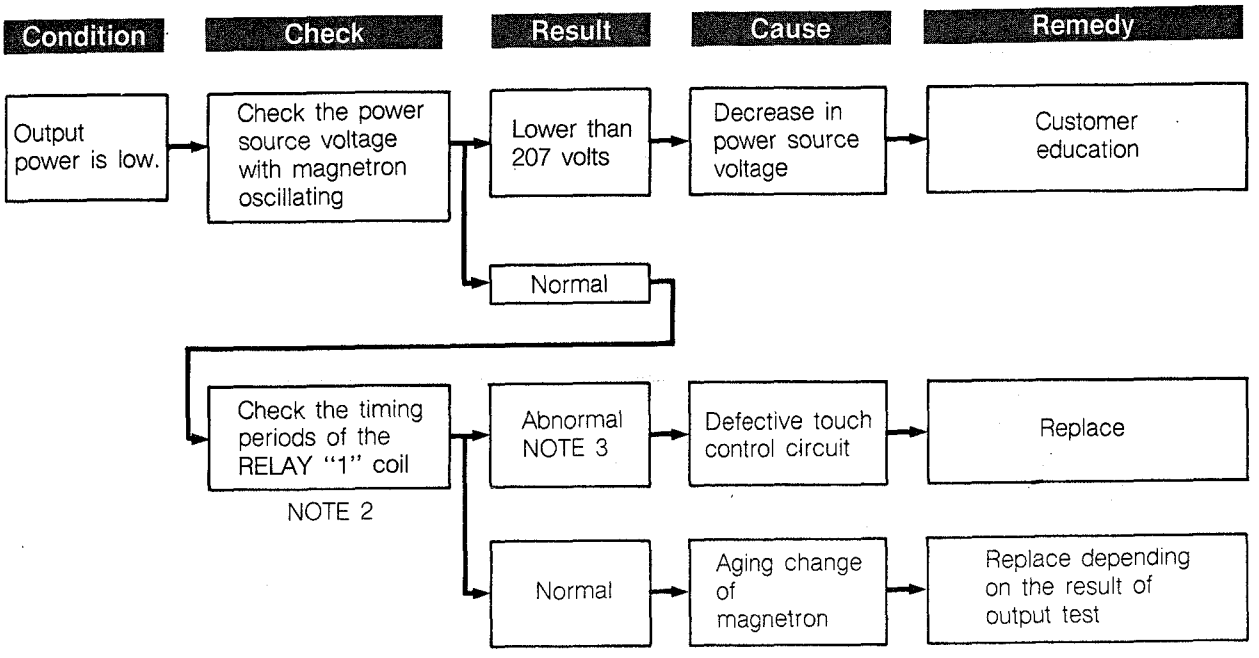





**(TROUBLE 5) No microwave oscillation even though fan motor rotates.**



**(TROUBLE 6) Microwave output power is low.**
**First of all, check if output power is really low following "measurement of the microwave output power" on page 21.**




**NOTE 2:** The following chart shows the timing periods of the RELAY "1".

| POWER | RELAY "1" ON TIME | RELAY "1" OFF TIME |
|---|---|---|
| 1 | 3 (Seconds) | 26 (Seconds) |
| 2 | 5 | 24 |
| 3 | 8 | 21 |
| 4 | 11 | 18 |
| 5 | 14 | 15 |
| 6 | 17 | 12 |
| 7 | 20 | 9 |
| 8 | 23 | 6 |
| 9 | 26 | 3 |
| 10 (Full) | 29 | 0 |

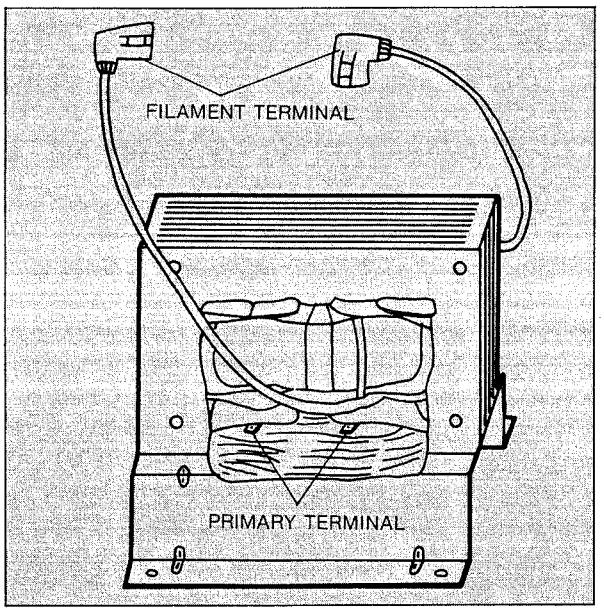
# COMPONENT TEST PROCEDURE

**CAUTION:**

1. High voltage is present at the high voltage terminal of the high voltage transformer during any cook cycle.
2. It is neither necessary nor advisable to attempt measurement of the high voltage.
3. Before touching any oven components or wiring, always unplug the oven from its power source and discharge the capacitor (see page 20).

### 1. High voltage transformer

(A) Remove connections from the transformer terminals and check continuity.
(B) Normal readings should be as follows:
Secondary winding . . . . . Approx. 94Ω ± 5%
Filament winding . . . . . Approx. 0Ω
Primary winding . . . . . Approx. 1Ω




### 2. High voltage capacitor

(A) Check continuity of capacitor with meter on the highest OHM scale.
(B) A normal capacitor will show continuity for a short time, and then indicate 9MΩ once the capacitor is charged.
(C) A shorted capacitor will show continuous continuity.
(D) An open capacitor will show constant 9MΩ.
(E) Resistance between each terminal and chassis should be infinite.

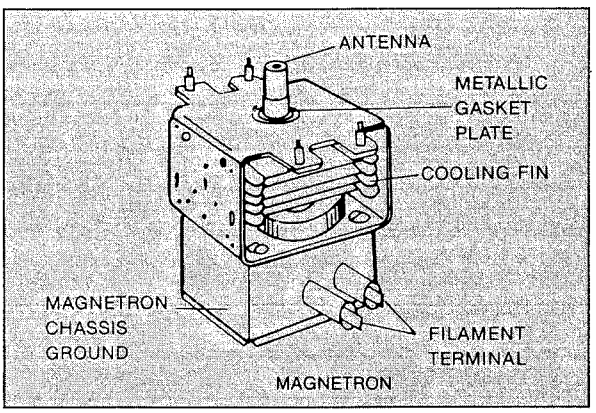
### 3. High voltage diode

(A) Isolate the diode from the circuit by disconnecting the leads.
(B) With the ohmmeter set on the highest resistance scale, measure the resistance across the diode terminals.
Reverse the meter leads and again observe the resistance reading. Meter with 6V, 9V or higher voltage batteries should be used to check the front-to-back resistance of the diode, otherwise an infinite resistance may be read in both directions. A normal diodes resistance will be infinite in one direction and several hundred KΩ in the other direction.

### 4. Magnetron

For complete magnetron diagnosis, refer to "Measurement of the microwave output power" (Page 14) continuity checks can only indicate and open filament or a shorted magnetron. To diagnose for an open filament or shorted magnetron.

(A) Isolate magnetron from the circuit by disconecting the leads.
(B) A continuity check across magnetron filament terminals should indicate one ohm or less.
(C) A continuity check between each filament terminal and magnetron case should read open.




**CAUTION:**
Never install the magnetron without the metallic gasket plate which is packed with each magnetron to prevent microwave leakage. Whenever repair work is carried out on magnetron, check the microwave emission, check the microwave emission. It shall not exceed 4mW/cm$^2$ for a fully assembled oven with door normally closed.

## 5. Fuse

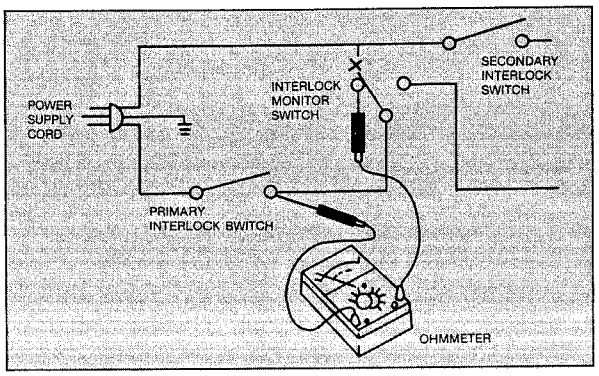
If the fuse in the primary monitor switch circuit is blown when the door is opened, check the primary and secondary interlock switch and monitor switch before replacing the blown fuse. In case the fuse is blown by an improper switch operation, replace the defective switch and fuse at the same time. Replace just the fuse if the switches operate normally.

REPLACE BLOWN FUSE WITH 8 AMPERE FUSE.
FUSE TYPES: SAMWHA 65M FUSE, OR BUSSMAN ABC-8 1 OR LITTLE H314008.

## 6. Interlock switches

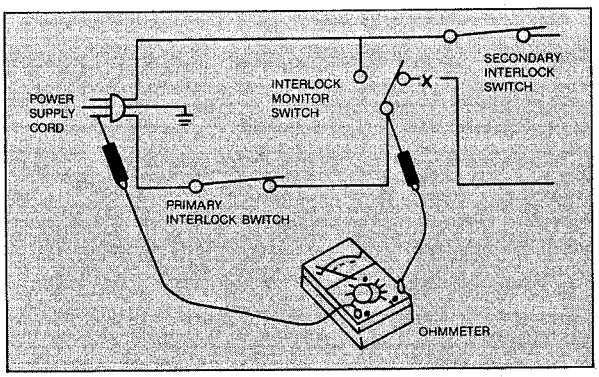
- You can test continuity of safety interlock and monitor switch by using ohmmeter.
- The switch peration is checked by zero/unlimited.
  The meter should indicate zero resistance.
- The sequence of check is interlock monitor switch, primary and secondary interlock switches check.

1) In case of interlock monitor switch check.



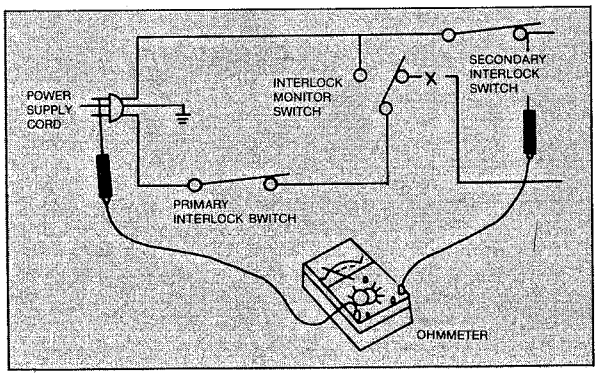

Condition
1) Door is opened.
2) NC terminal of the monitor switch disconnected.

2) In case of primary interlock switch check.




Condition
1) Door is closed.
2) No terminal of the monitor switch disconnected.

3) In case of secondary interlock switch check.




Condition
1) The same as primary interlock switch check.

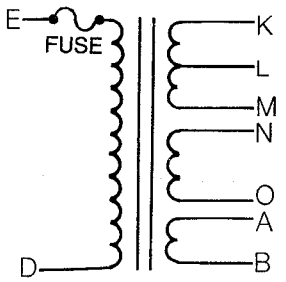
# PRINTED CIRCUIT BOARD

## 1. CIRCUIT CHECK PROCEDURE

### 1) Low Voltage Transformer (DMR-101FS) Check.

The low voltage transformer is located on the P.C.B.

Measuring condition: Input voltage: 230V
Frequency: 50Hz



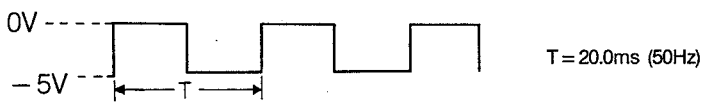

| Terminal \ Voltage | LOAD | NO LOAD |
|---|---|---|
| N—O | 30V | 45V |
| K—M | 2.6V | 3.5V |
| A—B | 10V | 15V |

**NOTE 1:** Secondary side voltage of the low voltage transformer changes in proportion to fluctuation of power source voltage.

**NOTE 2:** The allowable tolerance of the secondary voltage is within ±5% of norminal voltage.

### 2) Voltage Check

Key check point (MICOM PIN)

| NO. | CHECK POINT | REMARK |
|---|---|---|
| 1 | PIN 21 or 30 | −5VDC |
| 2 | PIN 16 | −24VDC |
| 3 | PIN 35 |  |
| 4 | PIN 31 or 32 |  |
| 5 | DP2 PIN 1 & 16 | 2.0VAC (DISPLAY FILAMENT VOLTAGE) |





CHECK METHOD

| NO. | MEASURE POINT Fig. 6 | WAVE FORM | REMARK |
|---|---|---|---|
| 1 | MP 1 | −14V DC | Replace BD1 |
| 2 | MP 2 | − 5V DC | Replace VL1 |
| 3 | Mp 3 | −12V DC | Replace R15, EC2 |
| 4 | MP 4 | −24V DC | Replace R17, ZD2 |

**NOTE:** Each measure point must be measured with GND points.

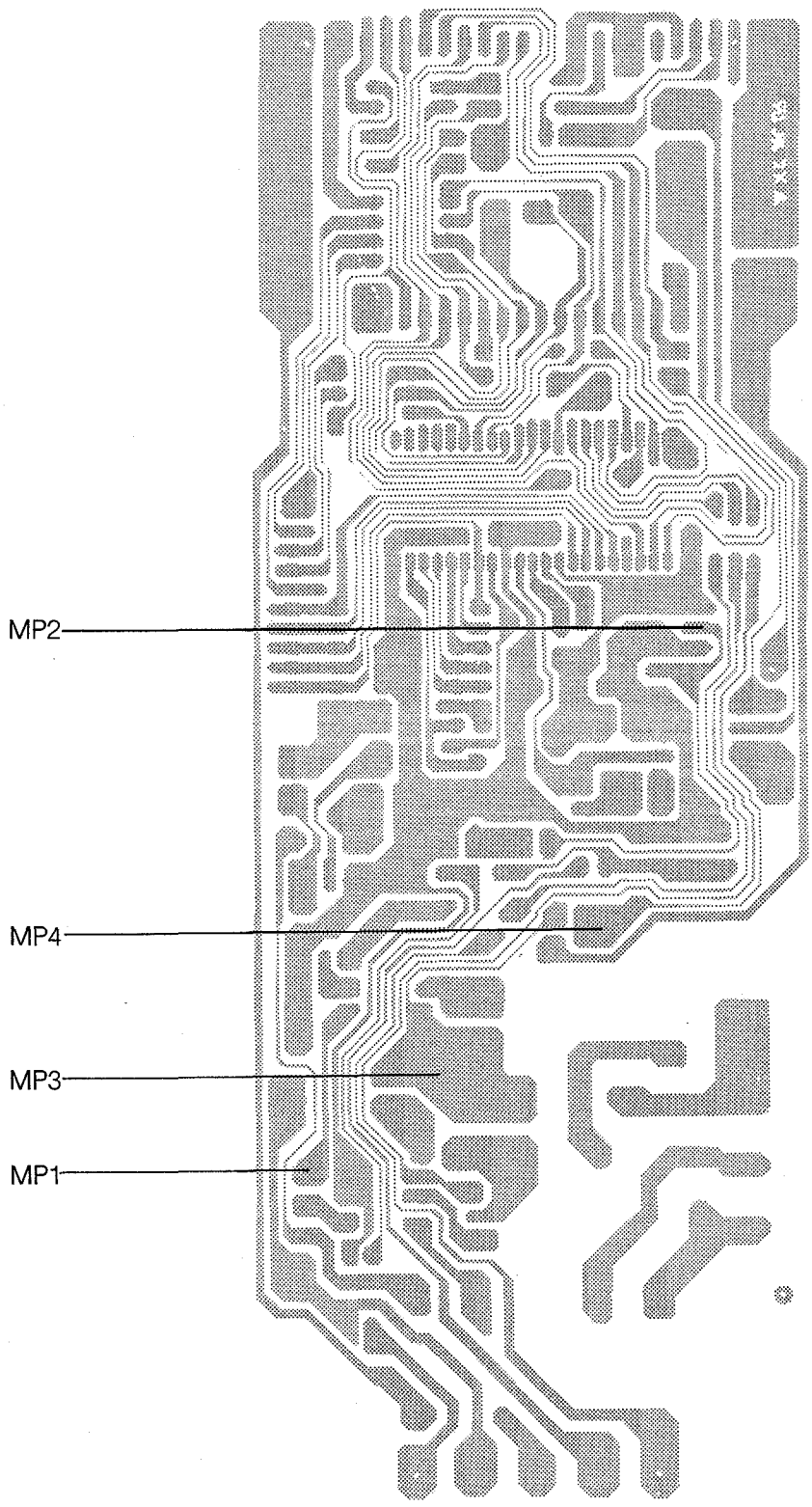



**Fig. 7 Measure Point**

### 3) Display problems

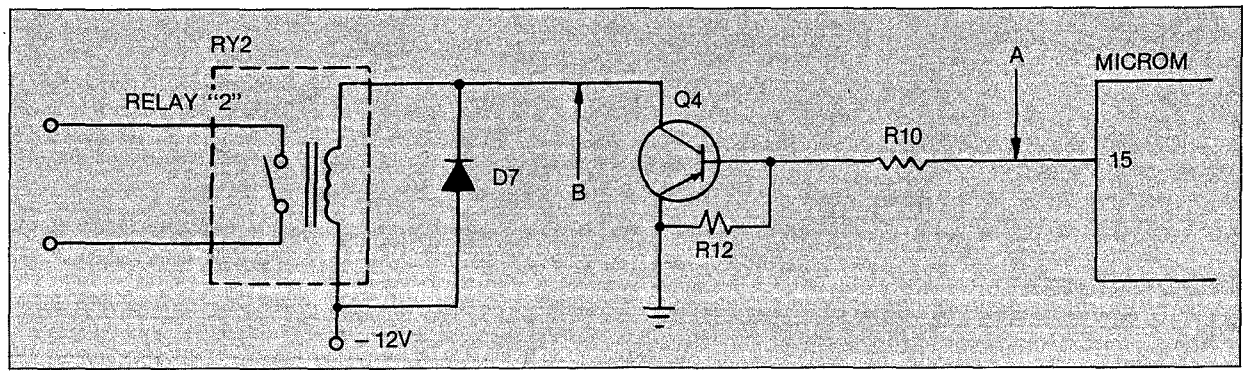
| NO. | CAUSE | MEASUREMENT | RESULT | REMEDY |
|---|---|---|---|---|
| 1 | Poor contact between P.C.B. and display filament. | 1. Check the voltage of PIN 1 & PIN 16. | 2.0 VAC | Fix the PIN 1 & 16 on the P.C.B. |
| 2 | Defective display | Refer to "The display trouble shooting data" below. | | Replace P.C.B. assembly. |
| 3 | Loss of vacuum in the display. | white spot  | White spot is generated on the display | Replace P.C.B. assembly |

### The display trouble shooting data

| TROUBLE | DISPLAY NAME & PIN NO. | MICOM OUTPUT IN PIN NO. |
|---|---|---|
| 1ST STAGE, PAUSE don't come on. | GRID1 (G1), 11 | 8 |
| 2ND STAGE, AUTO START don't come on. | GRID2 (G2), 10 | 9 |
| MEAT, AUTO DEFROST don't come. on. | GRID3 (G3), 9 | 10 |
| POULTRY, AUTO REHEAT don't come on. | GRID4 (G4), 8 | 11 |
| FISH, g don't come on. | GRID5 (G5), 7 | 12 |
| SEGMENT "a" doesn't come on from G1 to G5. | SEGMENT a, 15 | 20 |
| SEGMENT "b" doesn't come on from G1 to G5. | SEGMENT b, 14 | 22 |
| SEGMENT "c" doesn't come on from G1 to G5. | SEGMENT c, 13 | 23 |
| SEGMENT "d" doesn't come on from G1 to G5. | SEGMENT d, 12 | 17 |
| SEGMENT "e" doesn't come on from G1 to G5. | SEGMENT e, 5 | 18 |
| SEGMENT "f" doesn't come on from G1 to G5. | SEGMENT f, 3 | 19 |
| SEGMENT "g" doesn't come on from G1 to G5. | SEGMENT g, 4 | 24 |
| STAGE1, STAGE2, MEAT, POULTRY, FISH | UPPER BAR i, 6 | 7 |
| PAUSE, AUTO START, g, AUTO REHEAT, AUTO DEFROST don't come on. | LOWER BAR h, 2 | 6 |

**4) When there is no microwave oscillation.**

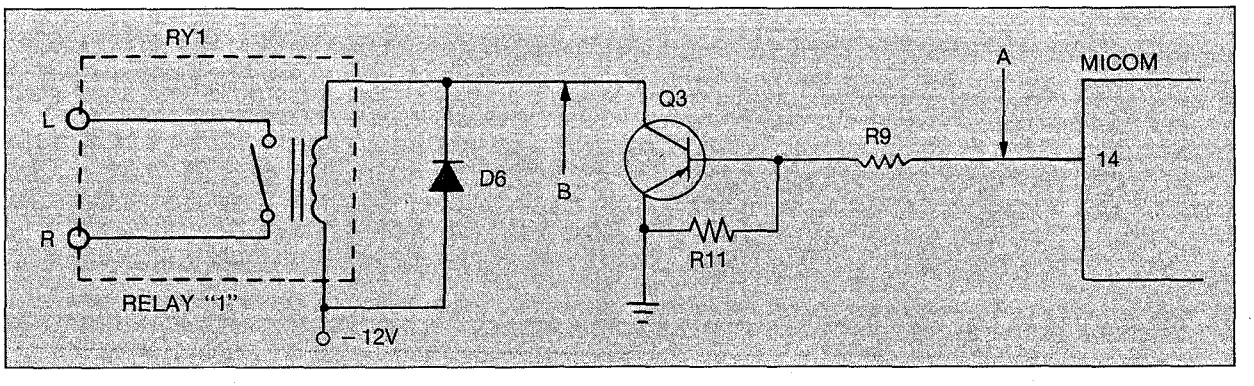
(1) When touching "START" pad, oven lamp does not turn on.
Fan motor and turntable motor do not rotate, but cook indicator in display comes on.
*Cause: RELAY "2" does not operate.




CHECK METHOD

| POINT / STAGE | A | B |
|---|---|---|
| RELAY "2" ON | – 5VDC | GND |
| RELAY "2" OFF | GND | – 12VDC |

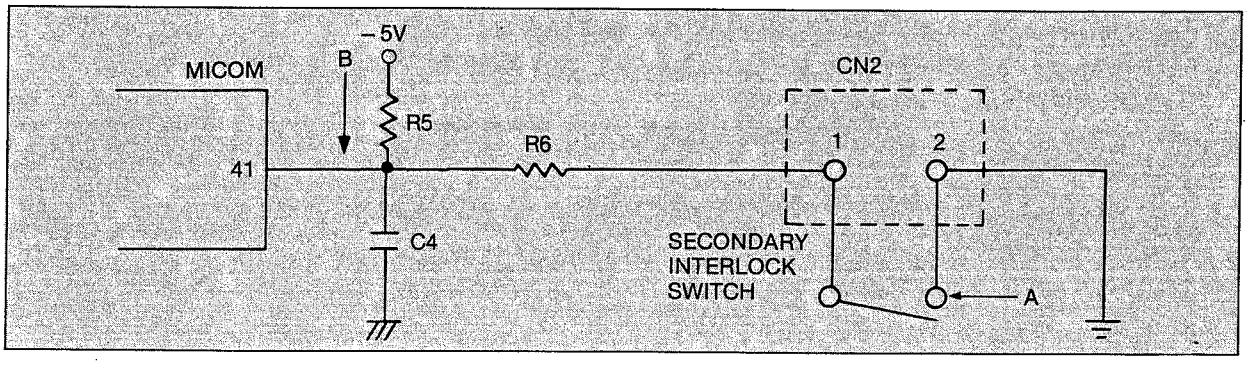
(2) When touching "START" pad, oven lamp turns on.
Fan motor and turntable motor rotate and cook indicator in display comes on.
*Cause: RELAY "1" does not operate.




CHECK METHOD

| POINT / STAGE | A | B |
|---|---|---|
| RELAY "1" ON | – 5VDC | GND |
| RELAY "1" OFF | GND | – 12VDC |

**5) When the door is opened during operation, the Count down timer does not stop.**

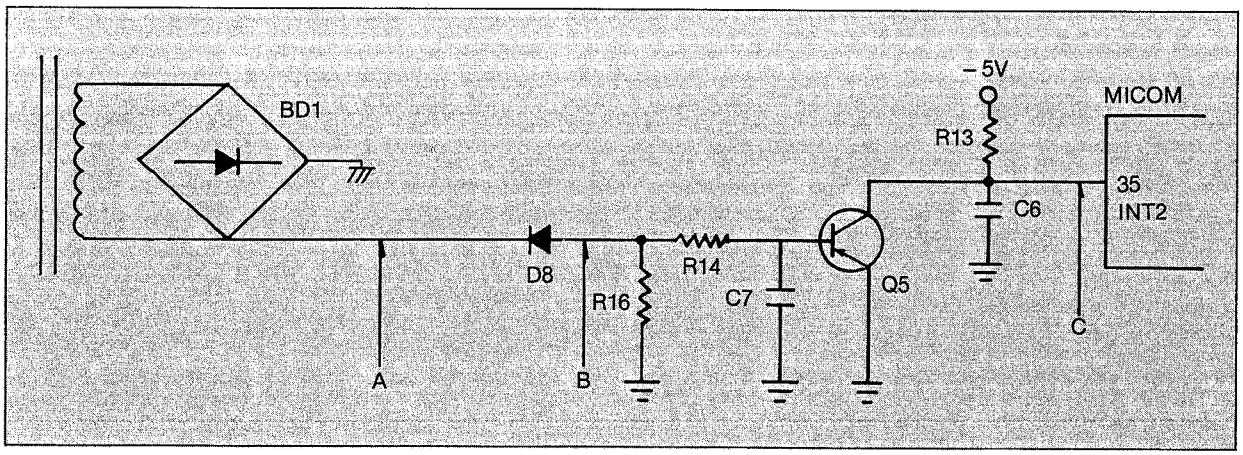



CHECK METHOD

| POINT / STAGE | A | B |
|---|---|---|
| 1) DOOR OPENED | OPEN | -5VDC |
| 2) DOOR CLOSED | CLOSE | GND |

| CHECK NO. | METHOD | REMEDY |
|---|---|---|
| 1 | Check the state (ON, OFF) of the secondary Interlock switch by resistance measurement. | Replace secondary interlock S/W |

**6) When the digital clock does not operate properly.**

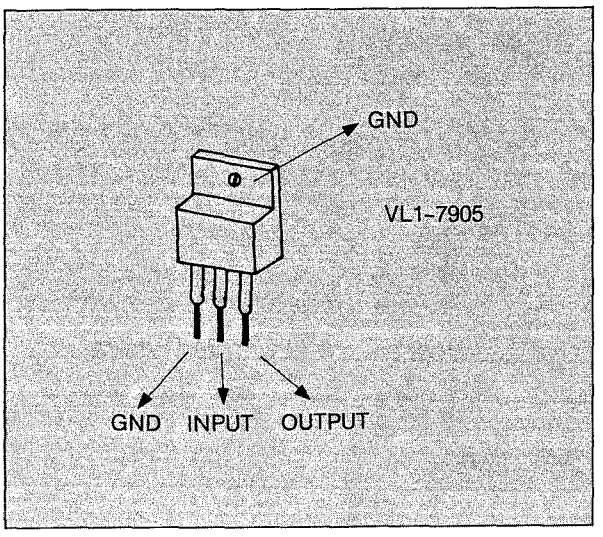



| POINT | WAVEFORM |
|---|---|
| A | |
| B | |
| C | 0V<br>-5V<br>T: 20.0ms (50Hz) |

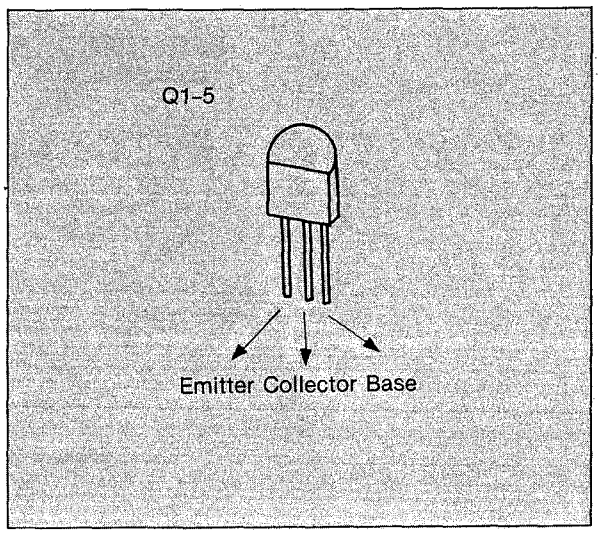
If clock does not keep exact time, you must check Diode D8, transistor Q5.

## 2. Component Information

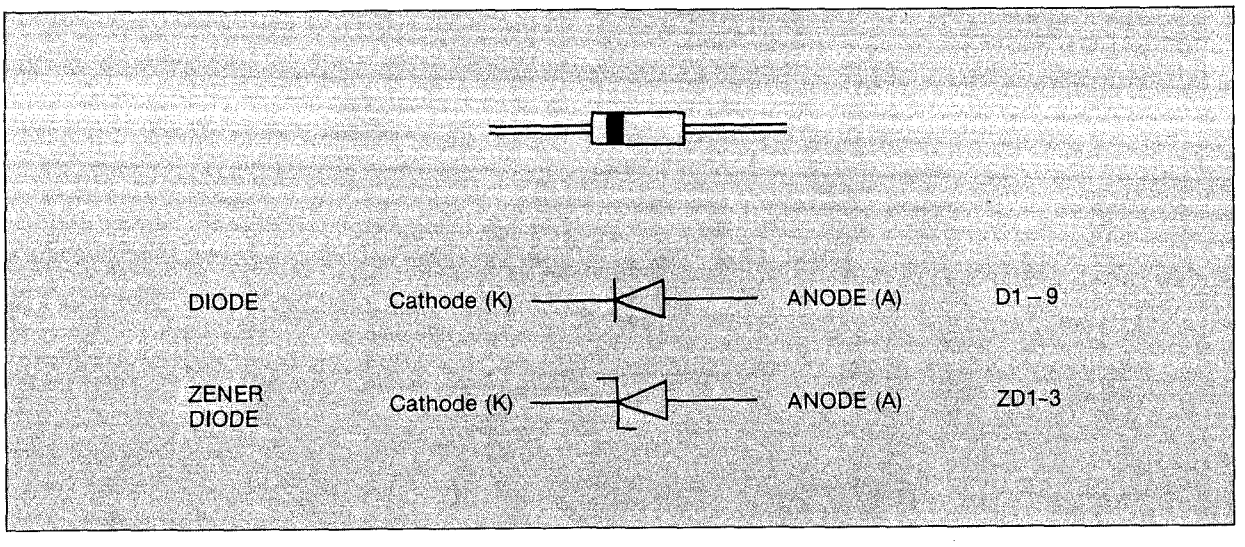
### 1) Voltage regulator



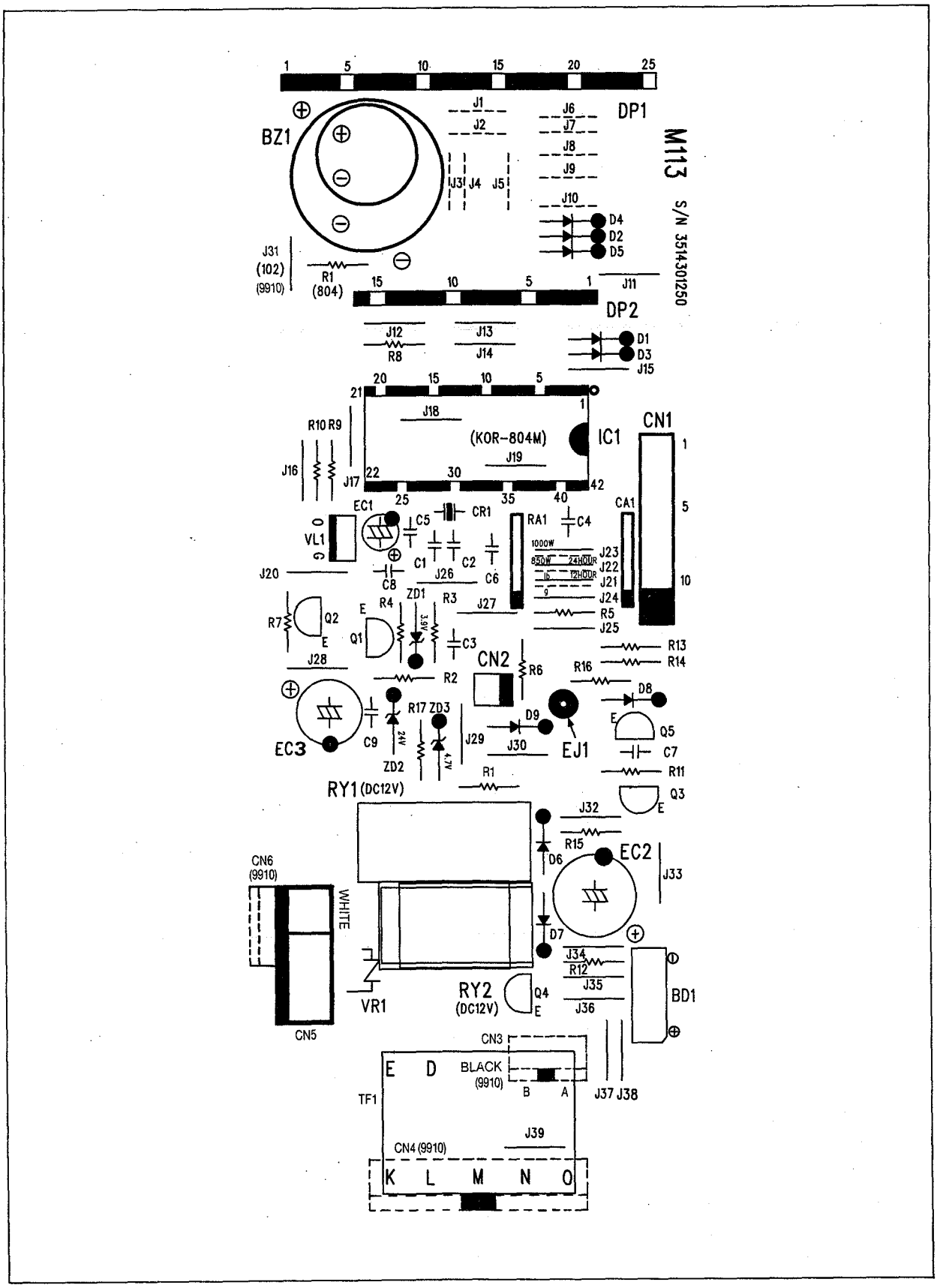

### 2) Transistor (PNP Type)




### 3) Diode and zener diode



## 3. Printed Wiring Borad



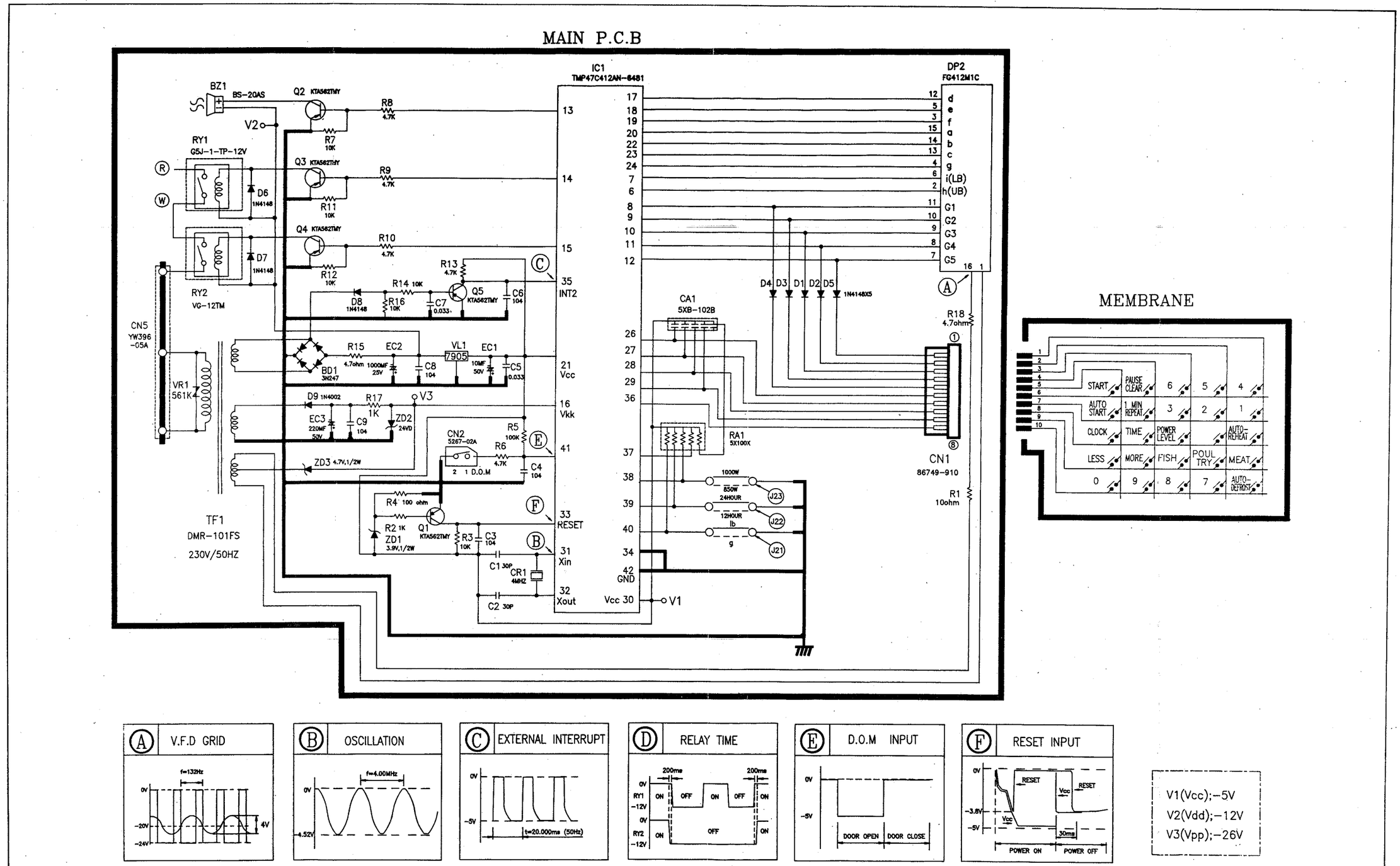
## 4. P.C.B. LOCATION NO.

| NO. | NAME | SYMBOL | TYPE NO. | REMRAK |
|---|---|---|---|---|
| 1 | DIGITRON | DP2 | FG412MIC | |
| 2 | IC MICOM | IC1 | KOR—804M | |
| 3 | P.C.B. | M113 | M113 | |
| 4 | VOLTAGE REGULATOR | VL1 | MC7905 | |
| 5 | R-ARRAY | RA1 | RGLD5X104J | |
| 6 | C-ARRAY | CA1 | 5B102M | |
| 7 | TRANSISTOR | Q1 | KTA562TMY | |
| 8 | TRANSISTOR | Q2 | KTA562TMY | |
| 9 | TRANSISTOR | Q3 | KTA562TMY | |
| 10 | TRANSISTOR | Q4 | KTM562TMY | |
| 11 | TRANSISTOR | Q5 | KTA562TMY | |
| 12 | DIODE | D1 | 1N4148 | |
| 13 | DIODE | D2 | 1N4148 | |
| 14 | DIODE | D3 | 1N4148 | |
| 15 | DIODE | D4 | 1N4148 | |
| 16 | DIODE | D5 | 1N4148 | |
| 17 | DIODE | D6 | 1N4148 | |
| 18 | DIODE | D7 | 1N4148 | |
| 19 | DIODE | D8 | 1N4148 | |
| 20 | DIODE | D9 | 1N4002A | |
| 21 | DIODE-Z | ZD1 | MTZ 3.9V, 1/2W | |
| 22 | DIODE-Z | ZD2 | MTZ 24VD, 1/2W | |
| 23 | DIODE-Z | ZD3 | MTZ 4.7V 1/2W | |
| 24 | BRIDGE DIODE | BD1 | 3N247 | |
| 25 | BUZZER | BZ1 | BS-20AS | |
| 26 | RESONATOR | CR1 | CSA 4.00MG | |
| 27 | SW RELAY | CR1 | G5J-1-TP-12V | |
| 28 | SW RELAY | RY2 | VG12TM | |
| 29 | CAPACITOR | C1 | 30pF, 50V | |
| 30 | CAPACITOR | C2 | 30pF, 50V | |
| 31 | CAPACITOR | C3 | 104, 50V | CERAMIC |
| 32 | CAPACITOR | C4 | 104, 50V | CERAMIC |
| 33 | CAPACITOR | C5 | 0.33μF, 50V | CERAMIC |
| 34 | CAPACITOR | C6 | 104, 50V | CERAMIC |
| 35 | CAPACITOR | C7 | 0.33μF, 50V | CERAMIC |
| 36 | CAPACITOR | C8 | 104, 50V | CERAMIC |
| 37 | CAPACITOR | C9 | 104, 50V | CERAMIC |
| 38 | CAPACITOR | EC1 | 10μF, 50V | ELECTROLYTIC |
| 39 | CAPACITOR | EC2 | 1000μF, 25V | ELECTROLYTIC |
| 40 | CAPACITOR | EC3 | 220μF, 50V | ELECTROLYTIC |

**P.C.B. LOCATION NO.**

| NO. | NAME | SYMBOL | TYPE NO. | REMRAK |
|---|---|---|---|---|
| 41 | RESISTOR | R1 | 10Ω, 1/4W | |
| 42 | RESISTOR | R2 | 1K, 1/4W | |
| 43 | RESISTOR | R3 | 10K, 1/4W | |
| 44 | RESISTOR | R4 | 100Ω, 1/4W | |
| 45 | RESISTOR | R5 | 100K, 1/4W | |
| 46 | RESISTOR | R6 | 4.7K 1/4W | |
| 47 | RESISTOR | R7 | 10K, 1/4W | |
| 48 | RESISTOR | R8 | 4.7K, 1/4W | |
| 49 | RESISTOR | R9 | 4.7K, 1/4W | |
| 50 | RESISTOR | R10 | 4.7K, 1/4W | |
| 51 | RESISTOR | R11 | 10K, 1/4W | |
| 52 | RESISTOR | R12 | 10K, 1/4W | |
| 53 | RESISTOR | R13 | 4.7K, 1/4W | |
| 54 | RESISTOR | R14 | 10K, 1/4W | |
| 55 | RESISTOR | R15 | 4.7Ω, 1/4W | |
| 56 | RESISTOR | R16 | 10K, 1/4W | |
| 57 | RESISTOR | R17 | 1K, 1/4W | |
| 58 | RESISTOR | R18 | 4.7Ω, 1/4W | |
| 59 | TRANS POWER | TF1 | DMR-101FS | |
| 60 | CONNECTOR | CN1 | 86749-910 | |
| 61 | CONNECTOR | CN2 | 5267-02A | |
| 62 | CONNECTOR | CN5 | YW396-5A | |
| 63 | VARISTOR | VR1 | TNR15G561K | |
| 64 | EARTH-WIRE | EJ1 | UL1015 AWG16 | |
| 65 | SPONGE FIP | SPONGE | T3×12×20 | |

## 5. P.W.B. Circuit Diagram

















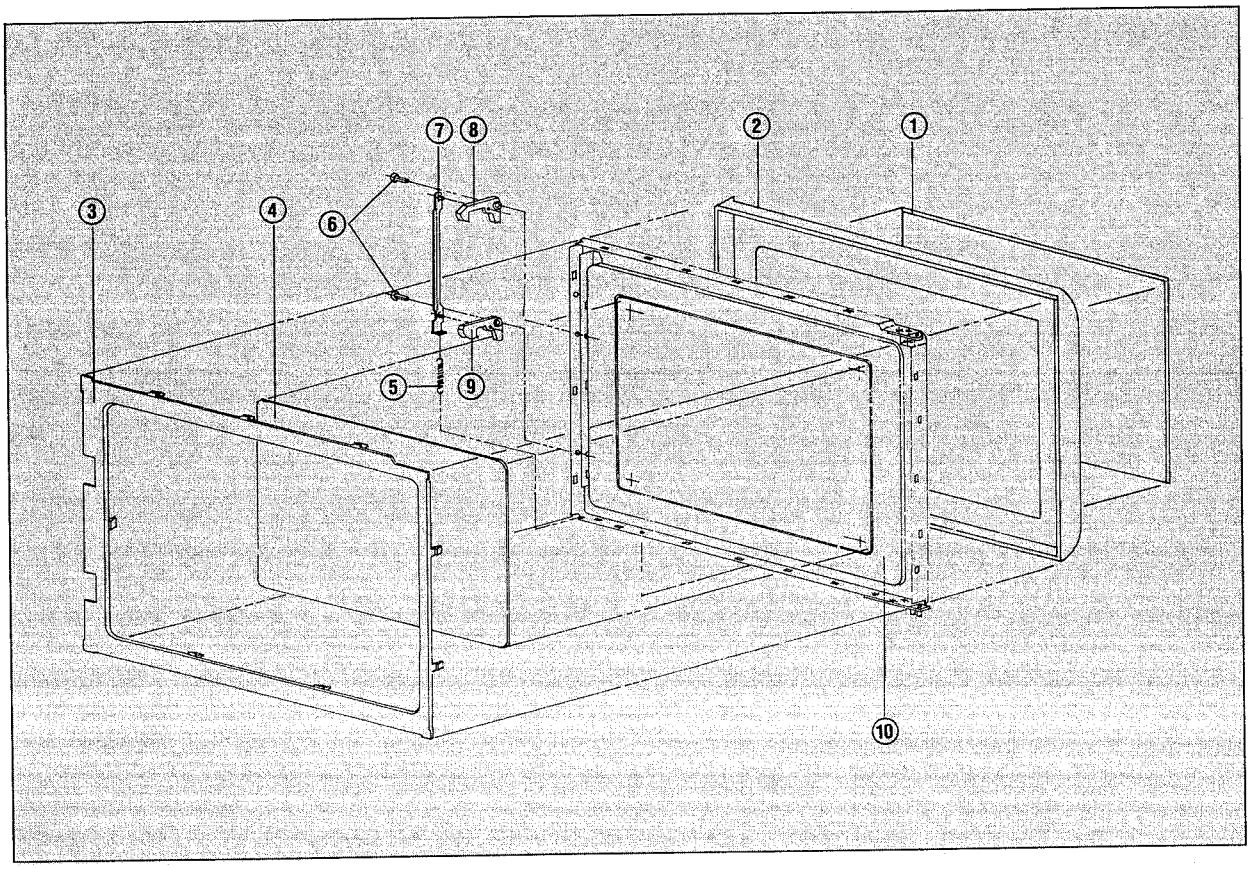





V1(Vcc);−5V
V2(Vdd);−12V
V3(Vpp);−26V

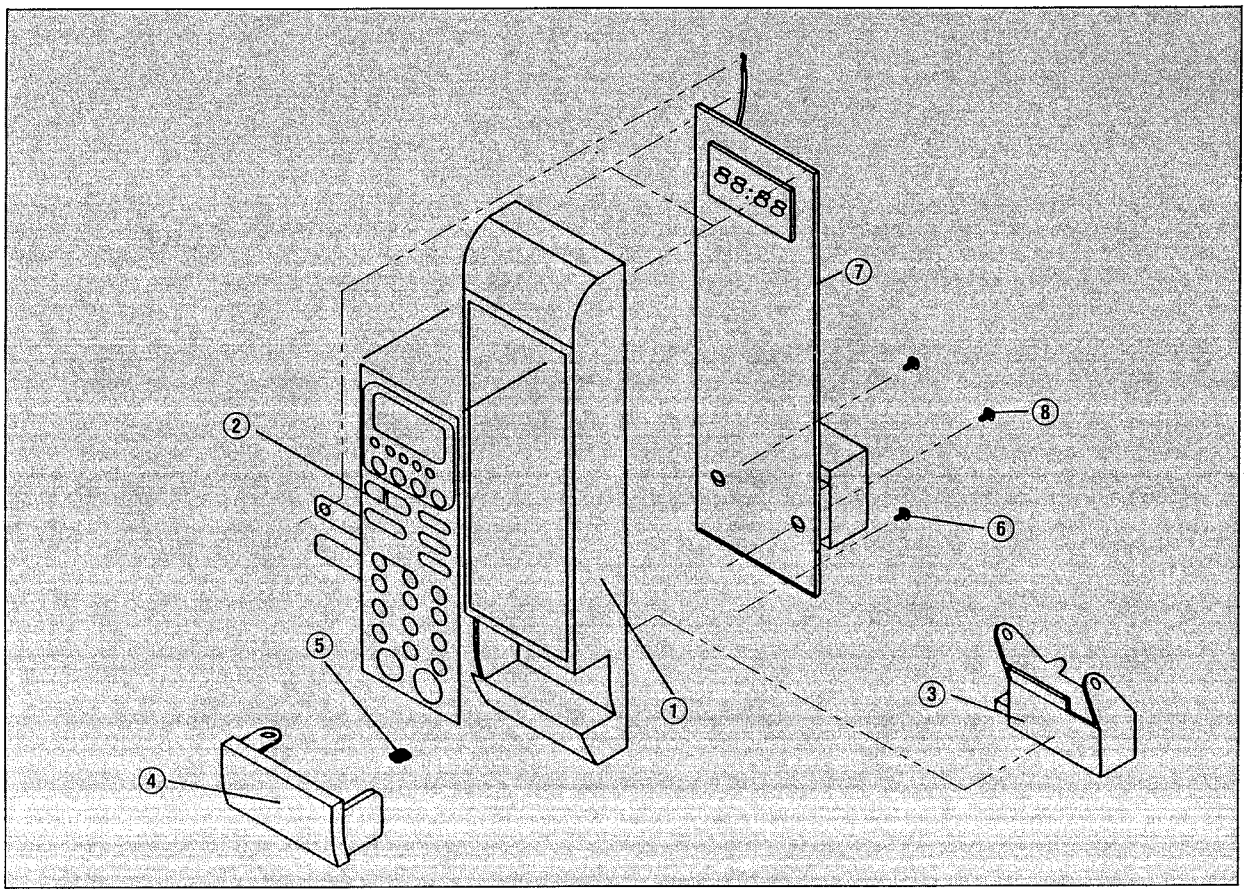
# EXPLODED AND PARTS LIST

## 1. Door Assembly



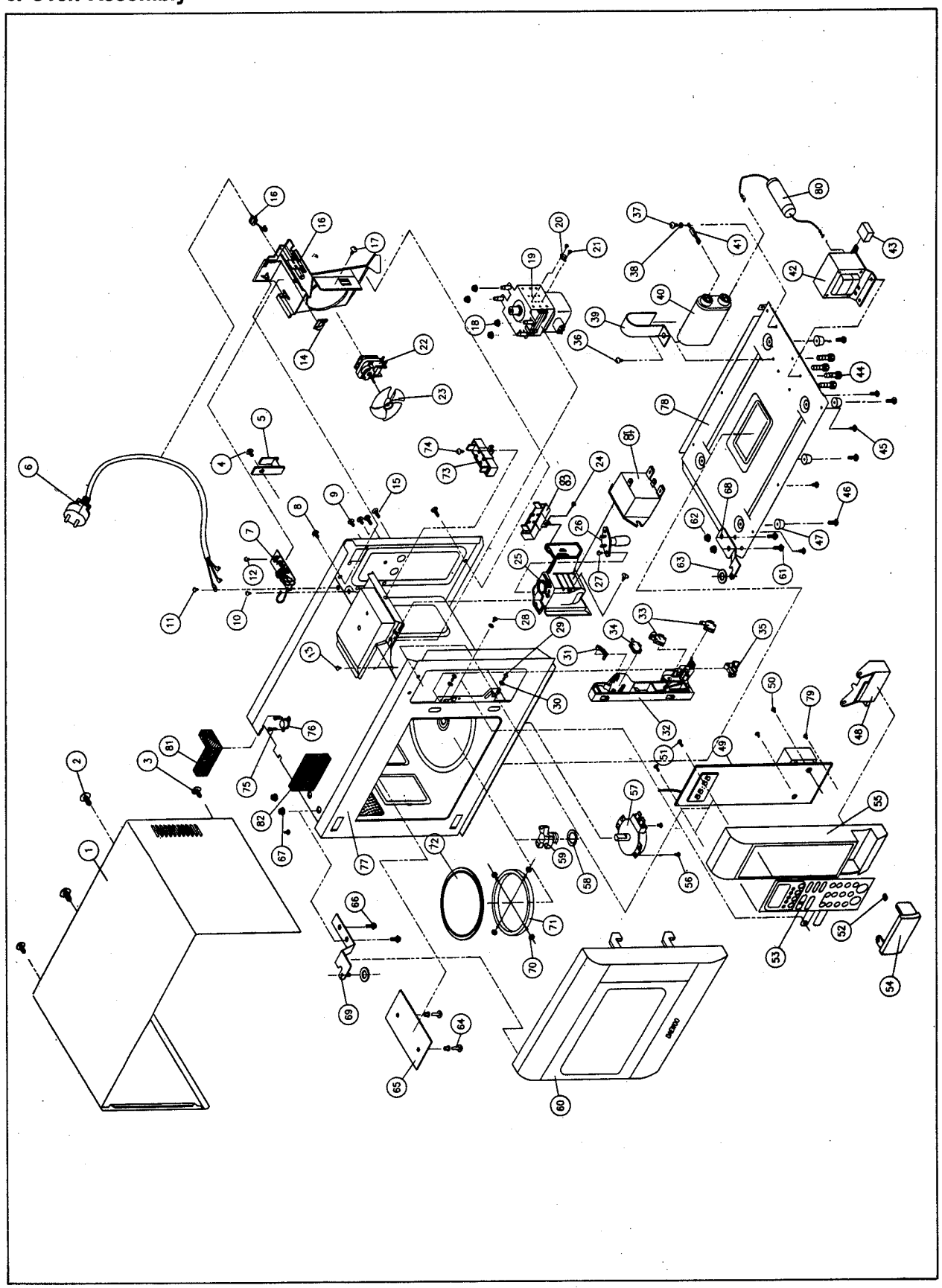

| NO. | PART NAME | REMARK | PART CODE | Q'TY |
|---|---|---|---|---|
| 1 | Barrier-Screen *0 | Acryl 1.5t | 3517000700 | 1 |
| 2 | Frame Door | ABS | 3512200300 | 1 |
| 3 | Absorber Micro | SFA1 | 441G440041 | 1 |
| 4 | Plate Inner | PE 0.125t | 441P741302 | 1 |
| 5 | Spring Hook | PW1 MFZN 10 | 441G448071 | 1 |
| 6 | Hook Pin | SWRM3 | 4413A40052 | 2 |
| 7 | Hook Lever AS | SBHG1 T1.2 | 441G448052 | 1 |
| 8 | Hook top | POM | 441G448052 | 1 |
| 9 | Hook Under | POM | 441G440021 | 1 |
| 10 | Door Painting AS | Painted Door | 3511700200 | 1 |

## 2. Control Panel Assembly




| NO. | PART NAME | PART CODE | Q'TY |
|---|---|---|---|
| 1 | Control Panel | 3616701600 | 1 |
| 2 | Membrane | 3518501200 | 1 |
| 3 | Push Lever | 4413A30054 | 1 |
| 4 | Door Button | 3516900900 | 1 |
| 5 | Button Spring | 441G430171 | 1 |
| 6 | Tapping Screw | 7112400811 | 3 |
| 7 | P.C.B. Ass'y | 3516703700 | 1 |
| 8 | Tapping Screw | 7128401611 | 2 |

## 3. Oven Assembly



| NO. | PARTS NAME | PART CODE | QTY |
|---|---|---|---|
| 1 | CABINET | 2110130117 | 1 |
| 2 | SCREW TAPPING 4×8 MFZN | 7112400811 | 2 |
| 3 | SCREW TAPPING 4×8 TB-W | 7S312B4081 | 2 |
| 4 | SCREW SPECIAL | 4414F92C50 | 1 |
| 5 | SPACER | 4414A54270 | 1 |
| 6 | POWER CORD ASS'Y | 441BM699F0 | 1 |
| 7 | NOISE FILTER | 441P470G01 | 1 |
| 8 | SCREW TAPPING | 7181401211 | 2 |
| 9 | SCREW TAPPING T1 TRS | 7112400811 | 2 |
| 10 | SCREW TAPPING | 7S312B4081 | 1 |
| 11 | SCREW TAPPING | 7S312B4081 | 1 |
| 12 | SCREW TAPPING | 7112400811 | 1 |
| 13 | SCREW TAPPING | 7112400811 | 1 |
| 14 | BKT CORD BUSHING | 441Q620050 | 1 |
| 15 | SCREW TAPPING | 7128401211 | 2 |
| 16 | GUIDE WIND | 441DA14700 | 1 |
| 17 | SCREW TAPPING | 7112400811 | 1 |
| 18 | NUT HEX | 7S67W50X1 | 4 |
| 19 | MAGNETRON | 3518000100 | 1 |
| 20 | THERMOSTAT MAGNETRON | 4418F67040 | 1 |
| 21 | SCREW TAPTITE | 7279300611 | 2 |
| 22 | MOTOR FAN | 441CZ15010 | 1 |
| 23 | FAN | 441Q826020 | 1 |
| 24 | SCREW TAPPING | 7112400811 | 2 |
| 25 | GUIDE AIR | 3512500500 | 1 |
| 26 | LAMP | 4417B13010 | 1 |
| 27 | SCREW TAPPING | 7142401011 | 1 |
| 28 | SCREW TAPPING | 7S312B4081 | 1 |
| 29 | SCREW TAPPING | 7621401611 | 2 |
| 30 | WASHER TOOTHED | 7402205011 | 2 |
| 31 | LEVER PIVOT | 4418D18021 | 1 |
| 32 | LOCK | 4418J18011 | 1 |
| 33 | SWITCH MICRO | 4414A66710 | 2 |
| 34 | SWITCH MONITOR | 4415A17351 | 1 |
| 35 | LOCK LEVER | 4413A17032 | 1 |
| 36 | SCREW TAPPING | 7142400811 | 1 |
| 37 | SCREW TAPPING | 7142400811 | 1 |
| 38 | WASHER TOOTHED | 7402205011 | 1 |
| 39 | HOLDER CAPACITOR | 441Q827032 | 1 |
| 40 | CAPACITOR H.V. | 4415T66300 | 1 |
| 41 | DIODE H.V. | 441A266420 | 1 |
| 42 | TRANS H.V. | 3518100400 | 1 |

| NO. | PARTS NAME | PART CODE | QTY |
|---|---|---|---|
| 43 | FOAM TRANS | 3517300200 | 1 |
| 44 | SCREW TAPTITE FLAN | 7277501611 | 4 |
| 45 | SCREW TAPPING | 7112400811 | 7 |
| 46 | SCREW TAPPING | 7121401211 | 4 |
| 47 | FOOT | 4418D04041 | 4 |
| 48 | PUSH LEVER | 4413A30054 | 1 |
| 49 | P.C.B ASS'Y | 3516703700 | 1 |
| 50 | SCREW TAPPING | 7128401611 | 2 |
| 51 | SCREW TAPPING | 7181401211 | 2 |
| 52 | BUTTON SPRING | 441G430171 | 1 |
| 53 | MEMBRANE SWITCH | 3518501200 | 1 |
| 54 | BUTTON | 3516900900 | 1 |
| 55 | CONTROL PANEL | 3516701600 | 1 |
| 56 | SCREW TAPPING | 7111400811 | 1 |
| 57 | MOTOR TRAY | 441CZ17010 | 1 |
| 58 | SPECIAL WASHER TEFRON | 3516000200 | 1 |
| 59 | COUPLER | 4413A14032 | 1 |
| 60 | DOOR ASS'Y | 3511700100 | 1 |
| 61 | BOLT HEX | 7650501611 | 2 |
| 62 | NUT HEX | 7S62W50X1 | 2 |
| 63 | WASHER NYLON | 4413A01010 | 2 |
| 64 | ASS'Y PUSH RIVET | 4414H50000 | 2 |
| 65 | SHIELD SPATTER | 441G410050 | 1 |
| 66 | BOLT HEX | 7650501611 | 2 |
| 67 | NUT HEX | 7S627W50X1 | 2 |
| 68 | STOPPER UNDER HINGE | 441G448046 | 1 |
| 69 | STOPPER TOP HINGE | 3515200300 | 1 |
| 70 | ROLLER | 441V442010 | 4 |
| 71 | ROLLER GUIDE | 441G417010 | 1 |
| 72 | TRAY | 3517200400 | 1 |
| 73 | RESISTOR MONITOR | RX10H528J- | 1 |
| 74 | SCREW TAPPING | 7111300811 | 1 |
| 75 | SCREW TAPPING | 7111300811 | 2 |
| 76 | THERMOSTAT CAVITY | 441X363010 | 1 |
| 77 | CAVITY ASS'Y | 3516100300 | 1 |
| 78 | BASE PLATE | 441G411607 | 1 |
| 79 | SCREW TAPPING | 7112400811 | 1 |
| 80 | H.V. FUSE | 441Q856100 | 1 |
| 81 | SPONGE "C" | 441G478082 | 1 |
| 82 | SPONGE | 4418J78040 | 1 |
| 83 | RESISTOR (20W 20Ω) | 4419J75030 | 1 |
| 84 | SLOW ACTING RELAY | 4416W67213 | 1 |